SERVICE MANUAL

EP1080/DX1080/OP1990/VE810/DP7290/ PV8530/P350/TX1080

Date	Revise Version	Description
2008.09.10	V1.0	Initial Issue
2008.09.22	V2.0	Modify Chapter 1 and add Chapter 7
2009.03.13	V3.0	Add EP1080 extended models: DX1080, OP1990, VE810, DP7290, PV8530, P350, TX1080 and amend the method of getting into FW mode in Chapter 5

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Preface

This manual is applied to EP1080 Series projection system. The manual gives you a brief description of basic technical information to help in service and maintain the product.

Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Please send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

Notice: The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in future edition.

EP1080 Series Service Manual

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Manual Version 3.0

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Serial Number System Definition	XIX
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Chapter 1

Introduction

1-1 Highlight

No	Item	Description
1	Dimension (L x W x H)	• 411 x 311 x 116 (mm)
2	Weight	• Unit(projector): approx. 10 lbs (< 11lb)
3	Tilt Angle	• 6 degree with elevator mechanism
4	Power Supply	• Universal AC 100--240V; 50 / 60 Hz with PFC input • Provide for Philips 300W UHP E21.9 lamp
5	Keystone correction	• -5°~ +10° Vertical
6	Resolution	• 1920 x 1080P
7	Brightness	• 2,872 ANSI Lumens (Typical) • 2,584 ANSI Lumens (Min.)
8	Contrast	• 1,500 :1 full on/full off (Typical) • 1,200 :1 full on/full off (Min.)
9	Uniformity	• 70% Japan standard (Typical) • 60% Japan Standard (Min.)
10	Throw ratio	• 1.85 – 2.22:1 distance/width
11	Projection lens	• F/ 2.6~2.89, f = 39.12~46.91 mm. 1.2X Zoomed Focal Lens. • Offset : 136 +/- 5%
12	Color wheel	• 5 Segment, RYGWB (R80Y40G82W78B80)
13	System controller	• Dual DDP3021, DAD1000, PMD1000 for 1080p DMD
14	Lamp	• Philips 300Watt E21.9 UHP
15	Altitude	• Operating 0~2,500 ft 5°C~35°C 2,500~5,000 ft 5°C~30°C 5,000~10,000 ft 5°C~25°C • Storage 40,000 ft

No	Item	Description
16	Maximum Humidity	• Operating: 5 ~ 35°C, 80%RH (Max.), non-condensing • Storage: -20 ~ 60°C, 80%RH (Max.), non-condensing
17	Video compatibility	• NTSC: NTSC M/J, NTSC 4.43 • PAL: PAL B/D/I/G/H, PAL M, PAL N • SECAM: SECAM B/D/G/K/L • SDTV: 480i, 480p, 576i, 576p, • HDTV: 720p(50Hz),720p(60Hz),1080i(50Hz),1080i(60Hz), 1080p (60Hz)
18	Input signal	• Analog RGB signal(PC) Analog RGB 0.7Vp-p, 75 ohm Analog RGB 1Vp-p, 75 ohm, Sync. signal Separate TTL H,V Sync. Composite TTL Sync. • Video signal Composite video 1Vp-p, 75 ohm S-video Luminance 0.714Vp-p, 75 ohm Chrominance 0.286Vp-p, 75 ohm
19	Temperature	• Operating: 5 ~ 35°C • Storage: -20 ~ 60°C
20	DMD Chip	• TI DMD, Single chip 0.95” Dark Chip 1 LVDS 1080p Super value DMD
21	Number of active dots	• 1920(H) x 1080(V)
22	Audio	• in (3.5mm) x 3 for VGA1, VGA2, DVI-D • out (3.5mm) x 1 • in RCA(L/R) x 1 for S-video, Composite
23	Cooling System	• Advanced air flow • One fan/ two blowers(in projector) with low system acoustic noise level • Temperature control circuits with adaptive voltage control fan speed • Max touch temperature follows UL60950 regulation

No	Item	Description
24	Power consumption	• Full power(at normal mode):typical 400W+/-10% at 110V AC • ECO power(at ECO mode):typical 340W +/-10% at 110V AC • Standby mode: < 14W at 110V AC
25	Terminal	• One HDMI input connectors (Support Audio input) • One DVI-D input • Two VGA input • One VGA output • One S-Video • One Composite Video • One 12V relay • Audio-in (3.5mm) x 3 for VGA1, VGA2, DVI-D • Audio-out (3.5mm) x 1 • Audio-in RCA(L/R) x 1 for S-video, Composite • One D-sub 9-pin RS-232 port • USB x 1 (Type B) • RJ-45 x 1 • One 3-pin AC power inlet port

1-2 Compatible Mode

Analog

Compatibility	Resolution	V-Sync [Hz]
VGA	640x350	70
	640x350	85
	640x400	85
	640x480	60
	640x480	72
	640x480	75
	640x480	85
	720x400	70
	720x400	85
SVGA	800x600	56
	800x600	60
	800x600	72
	800x600	75
	800x600	85
XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85
WXGA*	1280x720	60
	1280x768	60
	1280x768	85
SXGA	1280x1024	60
	1280x1024	75
SXGA+	1400x1050	60
UXGA	1600x1200	60

Digital

Compatibility	Resolution	V-Sync [Hz]
VGA	640x480	60
	640x480	72
	640x480	75
	640x480	85
SVGA	800x600	60
	800x600	75
	800x600	85
XGA	1024x768	60
	1024x768	70
	1024x768	75
	1024x768	85
WXGA	1280x768	60
	1280x768	70
HD	1280x720	60
	1280x1024	60
	1280x1024	75
SXGA+	1400x1050	60
UXGA	1600x1200	60

Chapter 2

Disassembly Process

2-1 Equipment Needed & Product Overview

1. Screw Bit (+) :105
2. Screw Bit (+) :107
3. Screw Bit (-) :107
4. Hex Sleeves 5 mm
5. Tweezers
6. Projector

** Before you start: This process is protective level II. Operators should wear electrostatic chains.*

** Note: - If you need to replace the scaler board, you have to record the lamp usage hour.*

- As the process of EP1080 extended models disassembling is the same as EP1080, we take EP1080 for example here.

2-2 Disassemble Lamp Cover Module

1. Unscrew 2 screws (as red circle) on the Lamp Cover.
2. Disassemble Lamp Cover Module.

2-3 Disassemble Lamp Module

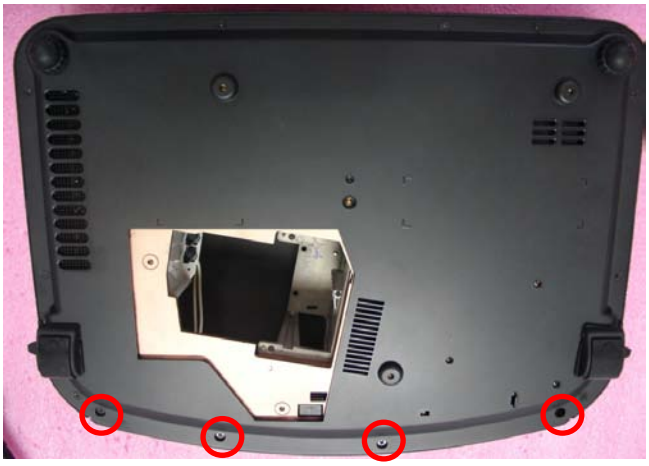
1. Unscrew 2 screws (as red circle) on the Lamp Module.
2. Take off Lamp Module.

2-4 Disassemble Lens Shelter

1. Turn the projector backside.
2. Press two sides of the Lens Shelter as red arrow point and take it up.

2-5 Disassemble Top Cover Module

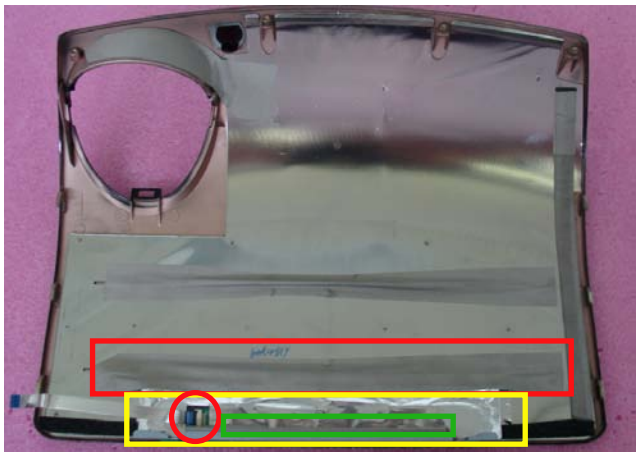
1. Unscrew 4 screws from the Bottom Cover (as red circle).
2. Unscrew 2 screws from the Rear Cover (as yellow circle).
3. Push forward to remove the Top Cover Module.
4. Unplug 1 FPC Cable from the Scaler Board Module (as blue circle).



5. Disassemble the Top Cover Module.

2-6 Disassemble Keypad Board Module

1. Unplug 1 FPC cable (as red circle).
2. Take off EMI Gasket (as green square), EMI Type (as red square) and Keypad Type (as yellow square).
3. Unscrew 5 screws (as yellow circle).
4. Disassemble the Keypad Board Module.



5. Unscrew 5 screws (as blue circle).
6. Separate Keypad Board,Keypad Button, LED Transparent Bar and Keypad Bracket.

2-7 Disassemble Vent

1. Unscrew 1 screw on the Left Vent (as red circle).
2. Turn the projector to backside and unscrew 3 screws (as blue circle).
3. Uplug 1 connector (as yellow square) and remove the Left Vent.

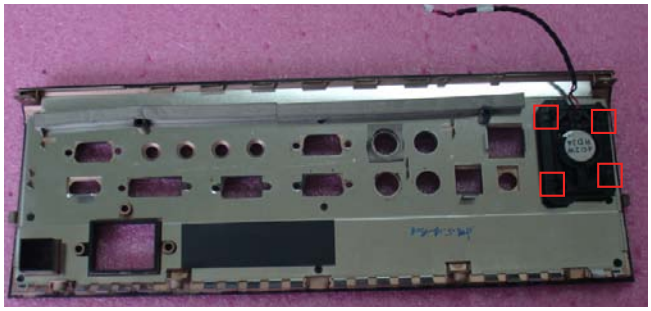
4. Unplug 4 clips (as red sqaure) and remove the Speaker.
5. Unscrew 2 screws on the Right Vent (as green circle).
6. Turn the projector backside and unscrew 3 screws (as orange circle).

7. Remove the Right Vent.

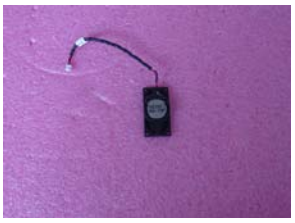
2-8 Disassemble Rear Cover Module

1. Unscrew 10 hex screws (as red circle) and 3 usual screws (as yellow circle).
2. Turn the projector backside and unscrew 3 screws (as green circle).

3. Unplug the connector (as orange sqaure) and remove the Rear Cover.
4. Unplug 4 clips (as red sqaure).



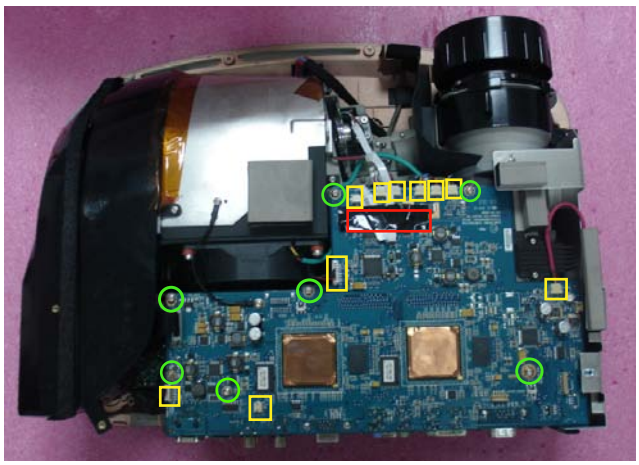
5. Remove the Speaker.

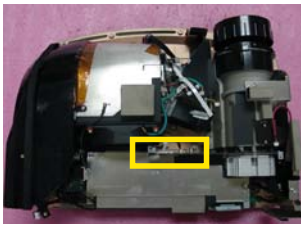


2-9 Disassemble Formatter Board and Scaler Board Module

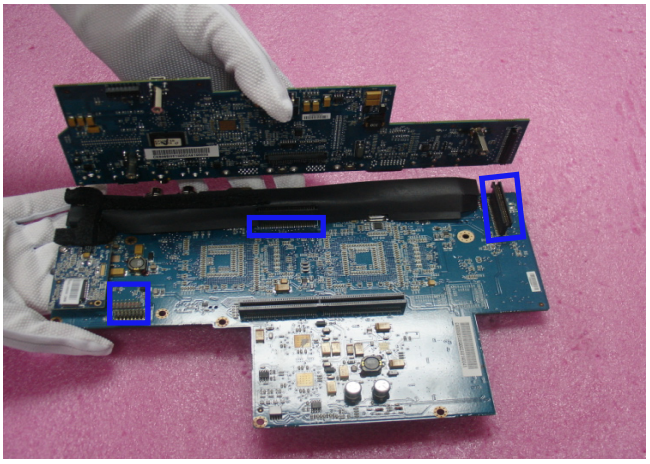
1. Take off mylar (as red square).
2. Unplug 10 connectors (as yellow square).
3. Unscrew 7 screws (as green circle).
4. Remove the Formatter Board and Scaler Board Module.

Note:The formatter board is connected on the DMD board (as yellow square).





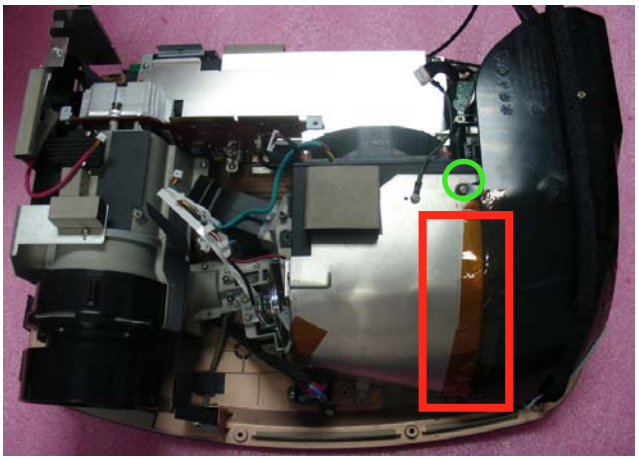
5. Unplug 3 connectors (as blue square) to seperate two boards.
6. Take off Lan Board from the Formatter Board.



7. Take off 3 Hex screws (as green circle) from the Scaler Board.

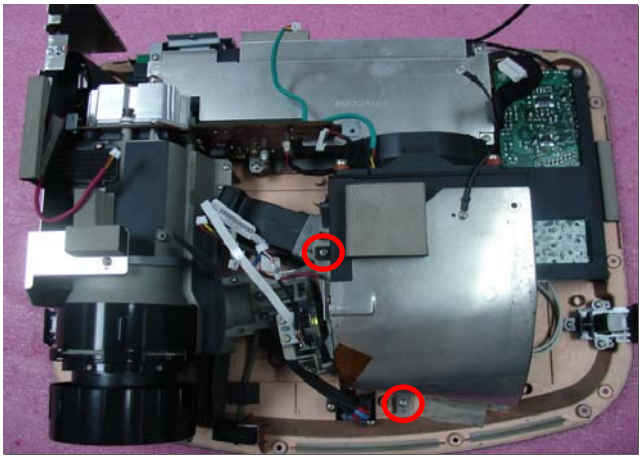
2-10 Disassemble Air Duct

1. Tear off 1 tape kapton (as red square).
2. Unscrew 1 screw (as green circle), then disassemble Air Duct.

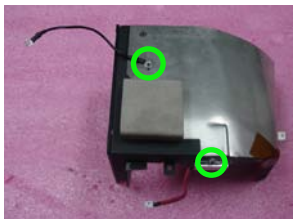


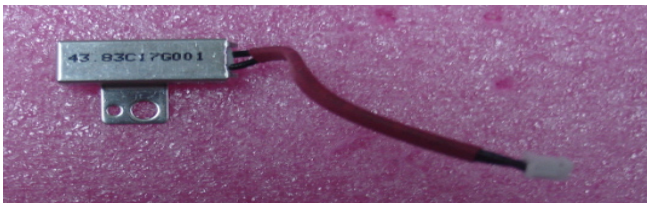
2-11 Disassemble System Fan Module

1. Unscrew 2 screws (as red circle) and disassemble Fan Module.



2. Unscrew 4 screws (as yellow circle) and separate Bracket and Fan.
3. Unscrew 2 screws (as green circle), separate thermal switch and ground wire and others.

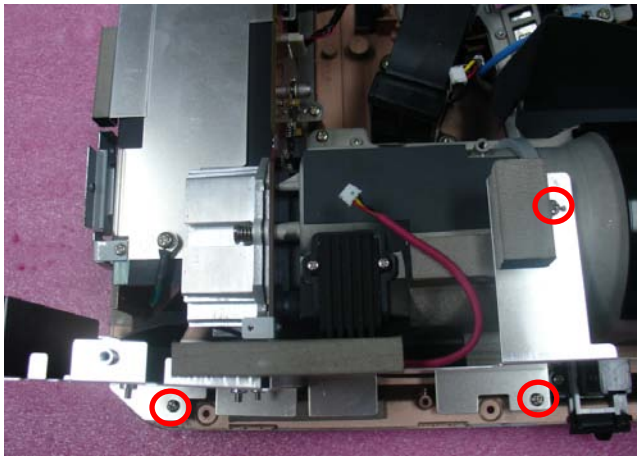


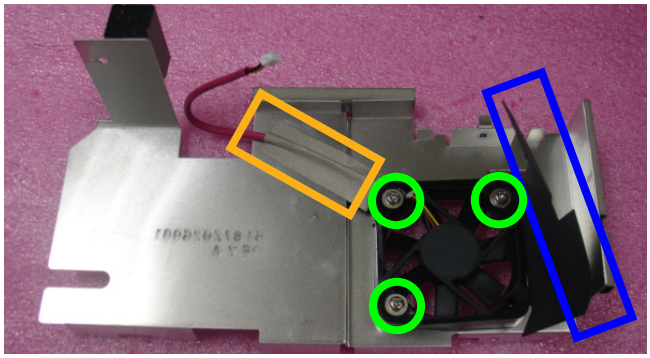


2-12 Disassemble Left Shielding Module

1. Unscrew 3 screws (as red circle) and disassemble Left Shielding Module.
2. Tear off mylar (as orange square), unscrew 3 screws (as green circle) and separate Fan and Left Shielding , then tear off mylar (as blue square) from the Left Shielding.

Note: - Take the Fan Module as the right gesture.



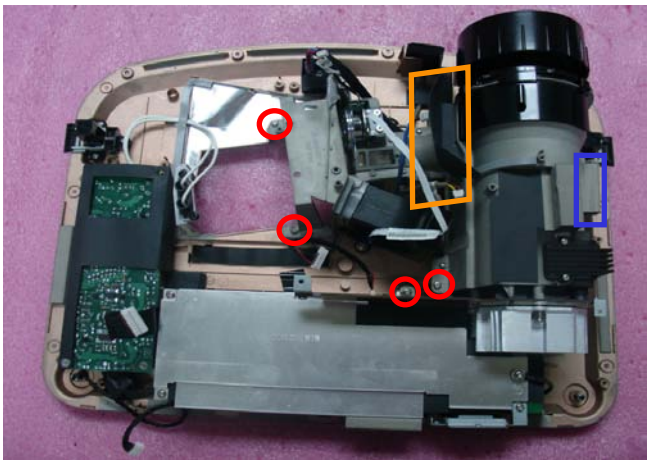


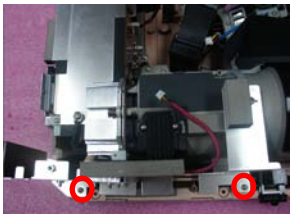
the wrong gesture

the right gesture

2-13 Disassemble Engine Module

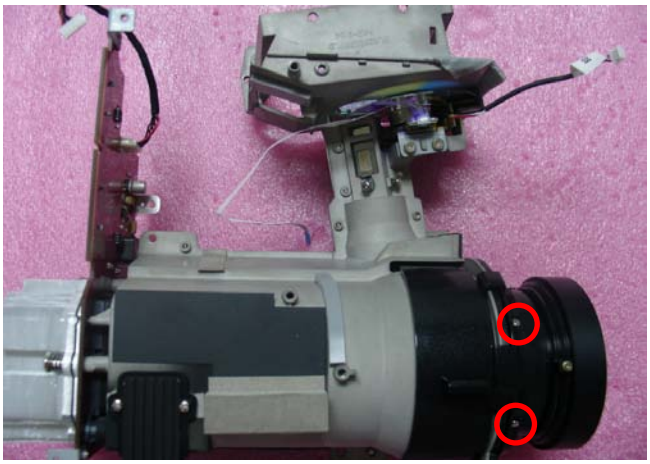
1. Disassemble 1 mylar (as orange square) and EMI Gasket (as blue square).
2 .Unscrew 6 screws (as red circle) to disassemble Engine Module.





3. Turn the Focus Ring as the yellow direction,then disassemble Focus Ring.

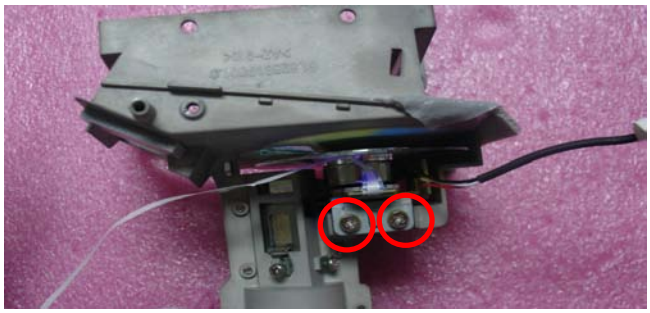
4. Unscrew 2 screws on the zoom ring cover (as red circle),remove the Zoom Ring as the picture.



2-14 Disassemble Color Wheel Module

1. Unscrew 2 screws (as red circle) to disassemble Color Wheel Module.
2. Unscrew 1 screw (as yellow circle) to disassemble Photo Sensor Board from Color Wheel Module.

Note: - Avoid to touch the glass parts of color wheel.



2-15 Disassemble DMD Chip

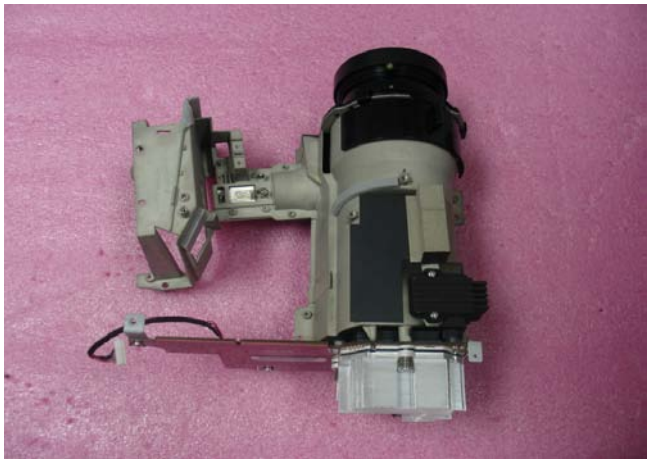
1. Unscrew 4 screws (as red circle) on the heatsink bracket and separate all parts.

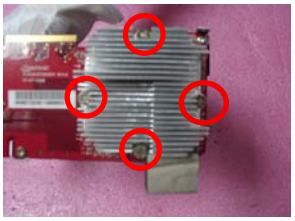
Note: - The manner of placing a DMD mask.

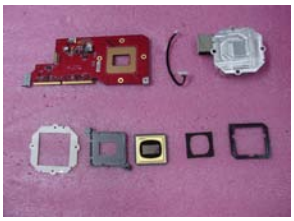
- Use an electrostatic ion gun to puff the engine room in the DMD mask.

- If there are scrapes or dirt on the DMD chip when using a magnifying glass to have a close look, use an electrostatic ion gun to clean it.

- To double check and see if the pin is out of shape.



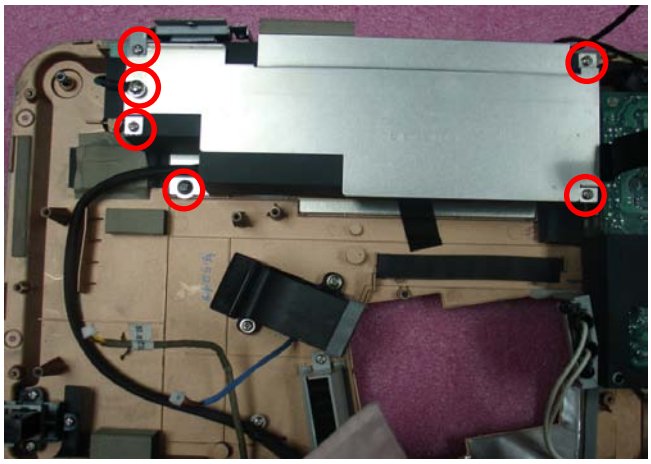


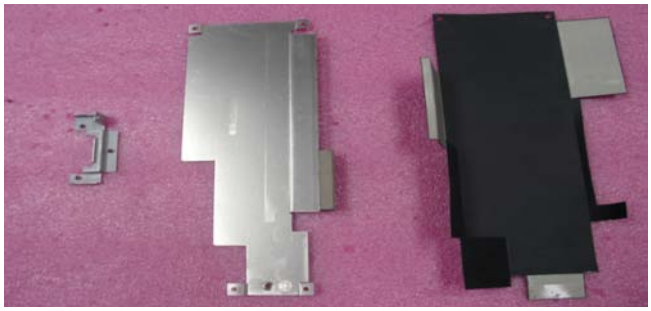


2-16 Disassemble LVPS Module

1.Unscrew 6 screws (as red circle).

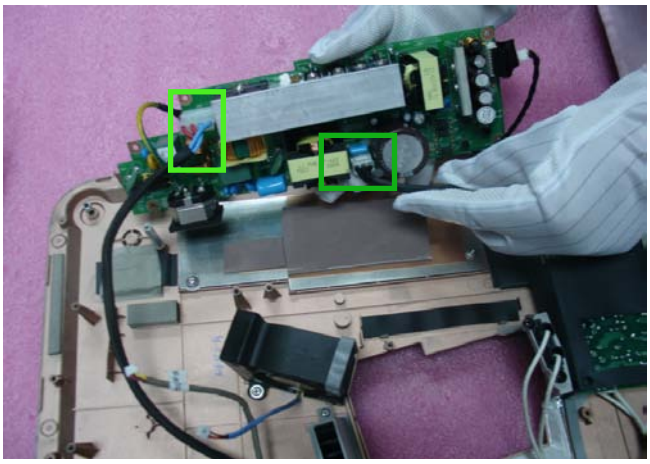
2. Disassemble LVPS Module holder, mylar, AC Inlet Bracket.

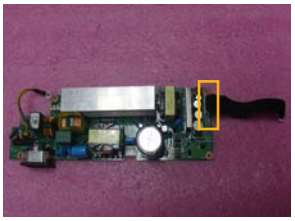


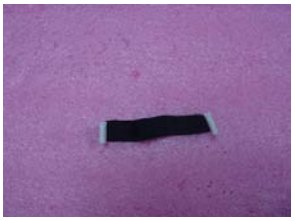


3. Unplug 2 connectors (as green square).

4. Unplug 1 connector (as yellow square) and separate LVPS and the wire .

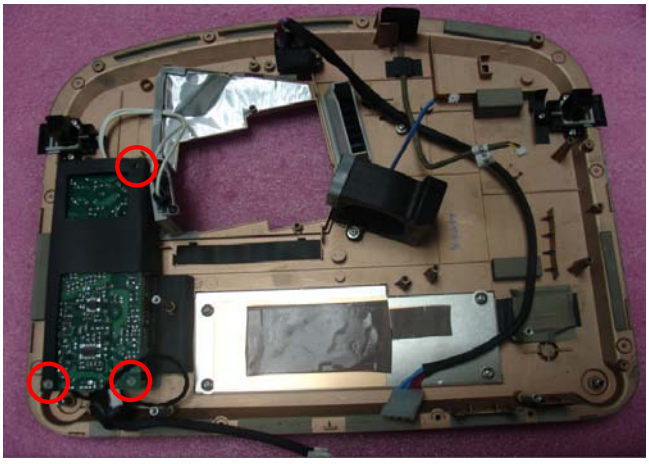


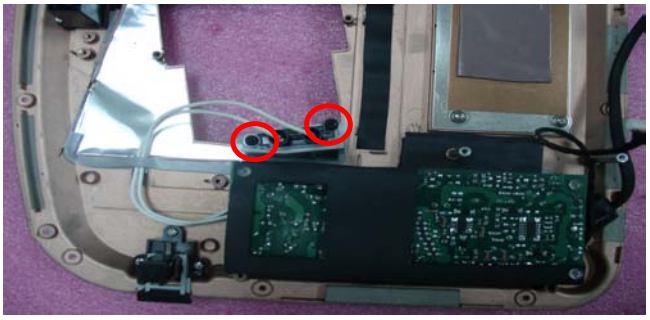




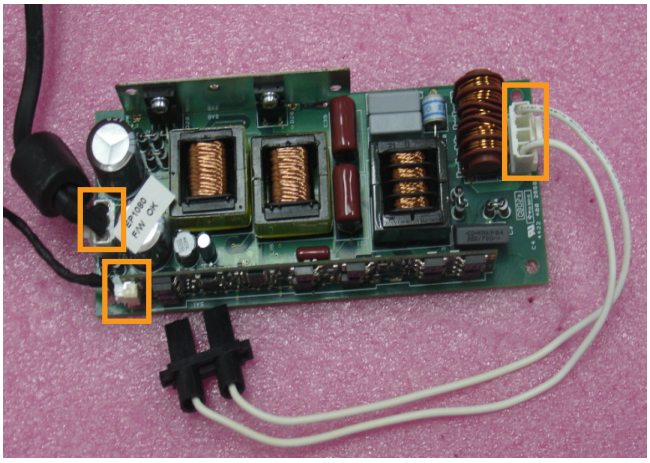
2-17 Disassemble Ballast Module

1. Unsrew 5 srews (as red circle),and disassemble Ballast Module.



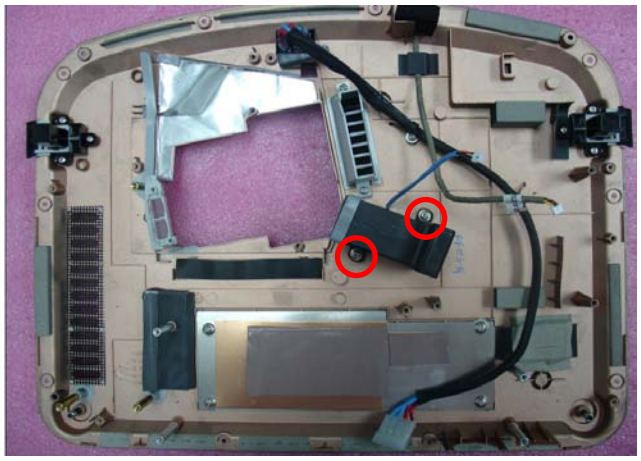


2. Unplug 3 connectors (as orange square) and all wires,then dissassemble Ballast Module.



2-18 Disassemble Blower Module

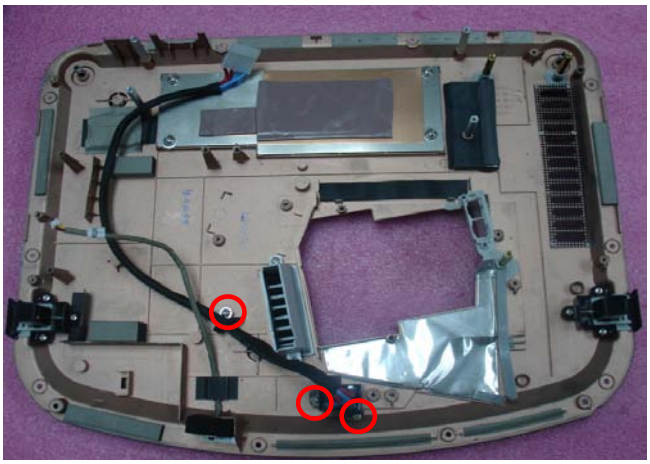
1. Unscrew 2 screws (as red circle).
2. Remove the Blower Module and separate Blower and Rubber.



2-19 Disassemble Safety Switch

1.Unscrew 3 screws (as red cirle).

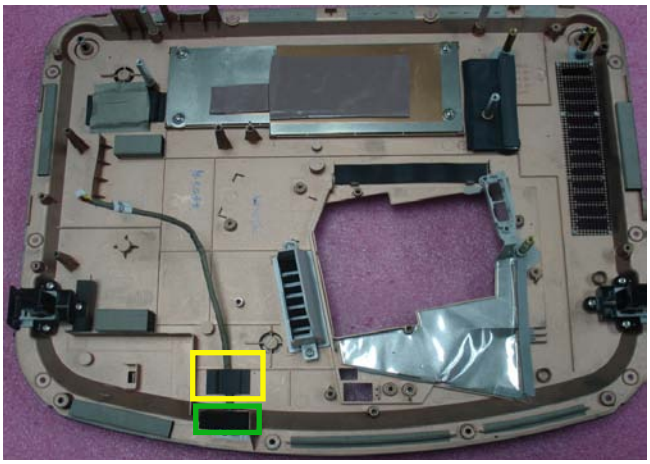
2. Disassemble Safety Switch.

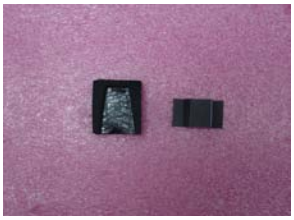


2-20 Disassemble IR Sensor Board and AIR Duct

1. Tear off 1 mylar (as yellow square) and EMI Gasket (as green square).

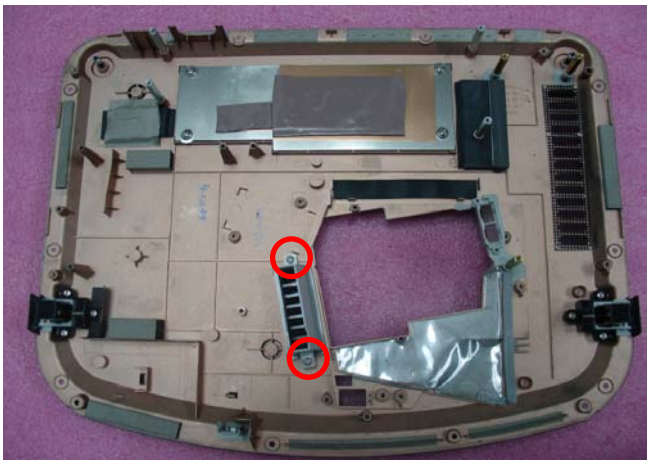
2. Take off IR Sensor Board.

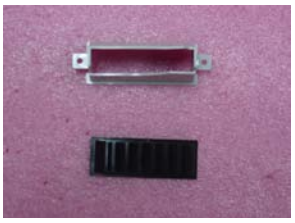




3. Unscrew 2 screws (as red circle).

4. Take off AIR Duct.

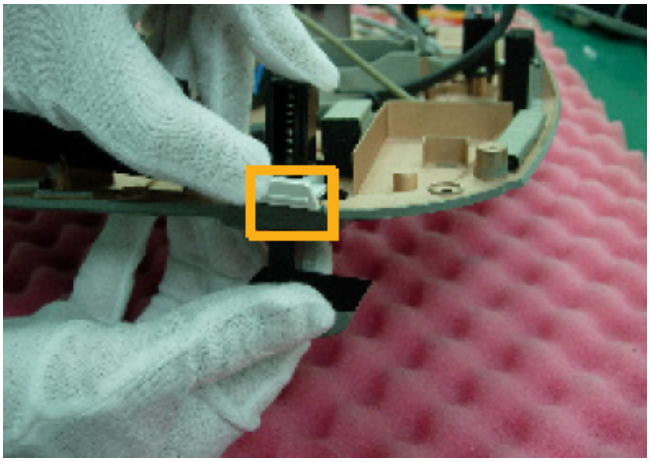




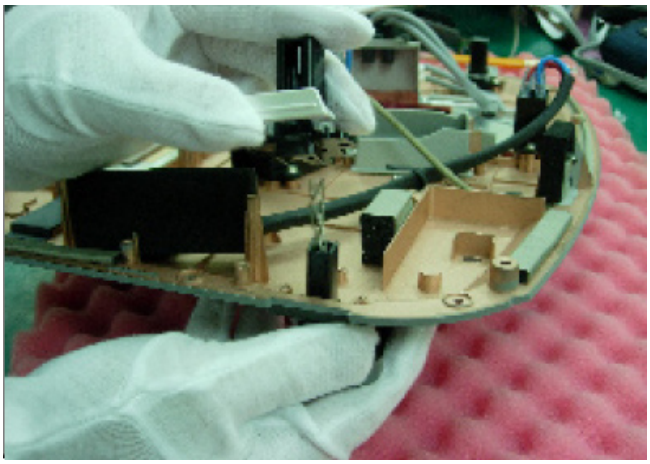
2-21 Disassemble Left and Right Elevator Module

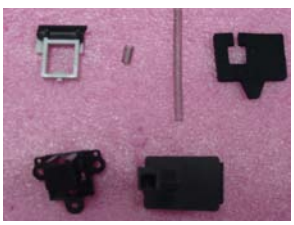
1. Unscrew 3 screws on the Left Elevator Module (as red circle).

2. Hold the Elevator and press the push button (as orange square).

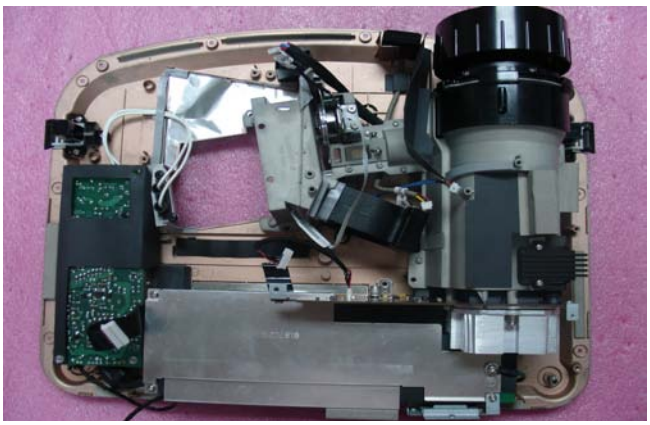


3. When pressing the push button,the elevator foot will get loose and be easily to be pulled down to separate the Elevator Module.
4. The methed of disassembling the Right Elevator Module is the same as the Left Elevator Module.





2-22 Rod Adjustment

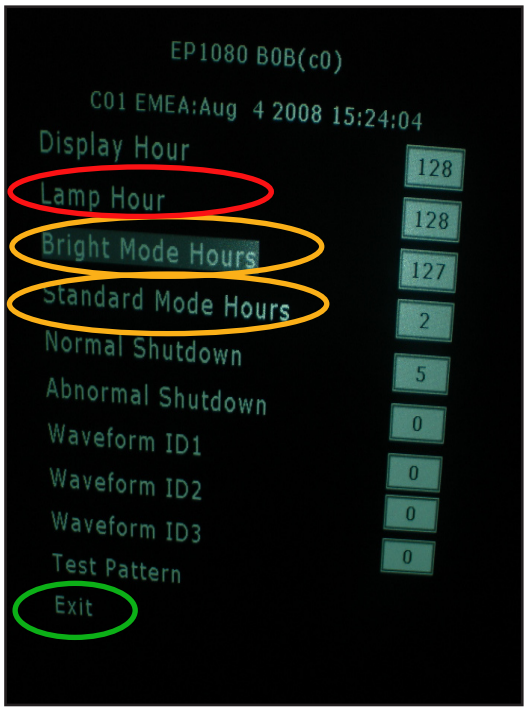


1. Environment Adjustment
   - The distance between the engine and the screen is 2.45M.
   - This process should be done at a dark environment(under 5 Lux).
2. Procedure Adjustment
   - Change the screen to “white screen.”
   - Adjust the screws by using the rod on the engine module to readjust the image. (“screw 1“ should be asjusted first, and then “screw 2“. Adjust until the yellowish or bluish parts disappeared.)
3. Abnormal image inspection
   - It should not have any abnormal color at the rim of the image by estimating through the eyes.

Note: - To avoid over adjusting the rod.

- After the opreation, please use the glue to fix the screws.

2-23 Re-write Lamp Usage Hour



1. Get into service mode
   - Press (power→left→left→down) to get into service mode 2.
2. Re-write Bright Mode Hours
   - Use "up" and "down" key to select "Bright Mode Hours".
   - Use "left" and "right" key to re-write "Bright Mode Hours".
3. Re-write "Standard Mode Hours"
   - The way of re-write "Standard Mode Hours" is the same as "Bright Mode Hours".
4. The "Lamp Hour" will increase/decrease follow the Bright Mode Hours and Standard Mode Hours increase/ decrease.

Note: - The Bright Mode Hours increase/ decrease 1 hour,the lamp Hour will increase/decrease 1 hour.The Standard Mode Hours increase/decrease 2 hours, the lamp Hour will increase/decrease 1 hour.

5. Chose "Exit".

Note: left key = decrease Bright Mode Hours/ Standard Mode Hours,

right key = increase Bright Mode Hours/ Standard Mode Hours.

Chapter 3

Troubleshooting

3-1 LED Lighting Message

Message	Power LED (Red)	Power LED (Blue)	Temp LED (Blue / Red)	Lamp Led (Blue / Red)
Standby State (input power cord)	*	O	O	O
Power on (warming)	O	Flashing	O	O
Power on and Lamp fighting	O	*	* (Blue)	* (Blue)
Power off (Cooling)	O	Flashing	Flashing (Blue)	Flashing (Blue)
Error (Lamp failed)	O	O	O	* (Red)
Error (Thermal failed)	O	O	* (Red)	O
Error (Over Temp.)	O	O	Flashing (Red)	O
Error (Fan failed)	O	O	O	Flashing (Red)
Error RS232 fail	Flashing	O	O	O

* *Light on* O *Light off*

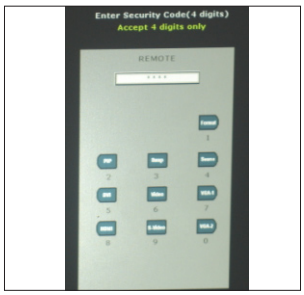
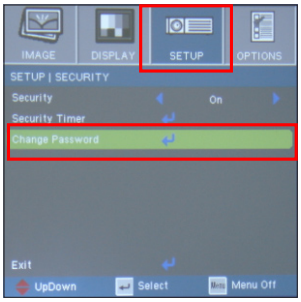
3-2 Main Procedure

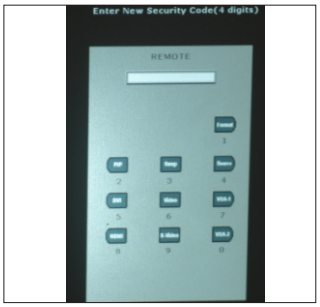
No	Symptom	Procedure
1	No Power	- Ensure the Power Cord and AC Power Outlet are securely connected - Check Lamp Cover and Interrupt Switch - Ensure all connectors are securely connected and aren't broken - Check Lamp Driver - Check LVPS - Check Scaler Board - Check Formatter Board
2	Auto Shut Down	- Check LED Status a. Lamp LED Flashing red - Check Fan - Check Scalar Board - Check Formatter Board b. Temp LED Lights red or Flashing red - Check Thermal Switch - Check Fan c. Lamp LED Lights red - Check Lamp - Check Lamp Driver - Check Formatter Board - Check Photo Sensor

No	Symptom	Procedure
3	No Light On	- Ensure all connectors are securely connected and aren't broken - Check Lamp Module - Check Lamp Driver - Check LVPS - Check Scaler Board - Check Formatter Board - Check Photo Sensor - Check Color Wheel
4	No Image	- Ensure the Signal Cable and Source work (If you connect multiple sources at the same time, use the "Source" button on the control panel to switch) - Ensure all connectors are securely connected and aren't broken - Check Scaler Board - Check Formatter Board - Check DMD Board - Check DMD Chip - Check Engine Module
5	Mechanical Noise	- Check Color Wheel - Check Fan Module
6	Line Bar/Line Defect	- Check if the Formatter Board and the DMD Board are assembled properly - Check Scaler Board - Check DMD Board - Check DMD Chip

No	Symptom	Procedure
7	Image Flicker	- Do “Reset (All data)” of the OSD Menu - Ensure that the signal cables and source are work as well - Check Lamp Module - Check Color Wheel - Check DMD Board - Check Scaler Board - Check Formatter Board
8	Color Abnormal	- Do “Reset (All data)” of the OSD Menu - Adjust Color Wheel Index - Check Scaler Board - Check Formatter Board - Check DMD Board - Check Color Wheel
9	Poor Uniformity/ Shadow	- Ensure the projection screen without dirt - Ensure the projection lens is clean - Ensure the Brightness is within spec - Check rod alignment - Check Engine Module
10	Dead Pixel/Dust (Out of spec.)	- Ensure the projection screen without dirt - Ensure the projection lens is clean - Clean DMD Chip and Engine Module - Check DMD Chip - Check Engine Module
11	Garbage Image	- Ensure that the signal cables and source work as well. - Check Scaler Board - Check Formatter Board - Check DMD Board

No	Symptom	Procedure
12	Remote Control/ Control Panel Failed	- Remote Control a. Check Battery b. Check Remote Controller c. IR receiver d. Check Scaler Board e. Check Formatter Board - Control Panel a. Check FPC b. Check Keypad c. Check Scaler Board
13	Function Abnormal	- Do “Reset (All data)” of the OSD Menu - Check Scaler Board - Check Formatter Board - Check DMD Board
14	Audio Abnormal	- Ensure that the signal cables and source are work as well - Check Speaker Module - Check Scaler Board - Check Formatter Board
15	Network Function Abnormal	- Ensure RJ45 Connector work as well (Normal Status: Before joining RJ45 line, Orange LED flashing, after joining RJ45 line, and Internet transmission speed over 100MB/second, Green LED will light.) - Check Internet Source and Network Module if LED message is in abnormal status. - Check Formatter Board if LED message is in normal status.

No	Symptom	Procedure
16	Forgetting Password (administrator Password)	- When the Password Protect is on, you must enter the password before you use the projector. If you forget the password, the Universal Password will enable you start the projector up and reset the password. - The EP1080 series's Universal Password is 2468. - Universal Password is the password of Administrator. It can be accepted by projector anytime no matter what the projector's password is. - If you forget the Password, how to get the Universal Password? When you turn on the projector, the message "Enter Security Code" appears. Please Input the "Current Security Code 2468" by Remote Control, then press "Enter".  - Select "Setup", then select "Change Password", and press" Enter" button. 

No	Symptom	Procedure
	Forgetting Password (administrator Password)	- The message “Enter New Security Code” appears. Input a 4-digits code (letters and/or numbers) that you define.  - To confirm, enter the password again. The “Security Code change successfully” appear on the screen.

Chapter 4

Function Test & Alignment Procedure

4-1 Test Equipment Needed

- IBM PC with HOME resolution
- Equipped “Component”, “S-Video” , “Composite” ,"DVI-D", "VGA", "SCART" and "HDMI."
- HDTV Source (480P,576P,720P,1080i,1080P)
- Minolta CL-100
- Quantum Data 802B or CHROMA2327 (Color Video Signal & Pattern Generator)
- After changing parts, check the information below.

4-2 Service Mode

1. Turn on the projector and input the signal
2. Do the following actions sequentially to get into service mode 1
   - Press "Power", "Left", "Left" and "Up" buttons continuous.
3. Do the following actions sequentially to get into service mode 2
   - Press "Power", "Left", "Left" and "Down" buttons continuous.

4-3 OSD Reset

1. After final QC step, we have to erase all saved change again and resotre the OSD default setting. The following actions will allow you to erase all end-users' settings and restore the default setting:
   (1) Please get into OSD menu.
   (2) To execute "Reset" function.

4-4 Test Condition

- Circumstance brightness: Dark room less than 5.0 lux.
- Inspection distance: 1.8 M~2.5 M functional inspection.
- Screen size: 60 inches diagonal
- After repairing each projector, the unit should be run-in (refer to the table below)

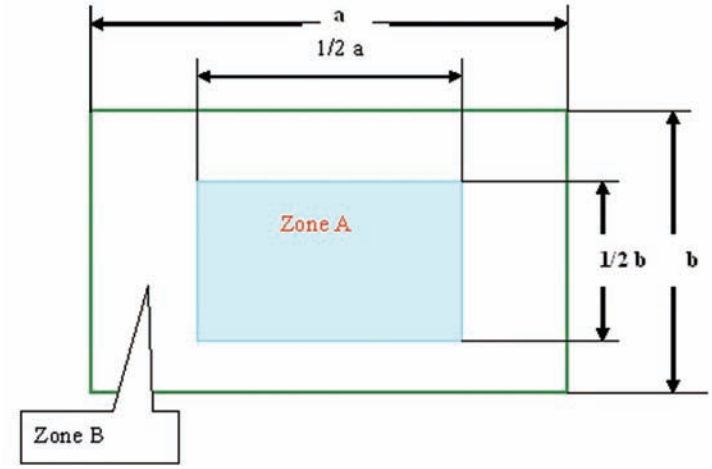
Symptom	Run-in Time
Normal repair	2 hours
NFF	4 hours
Auto shutdown	6 hours

- Get into Burn-In Mode

** Cycle setting is based on the defect symptoms. ie: If it is NFF, the run-in time is 4 hours. You have to set the lamp on for 50 min. and lamp off for 10 min for 4 cycles.*

Press power > left > left > up	
Choose Burn-In Test > enter	
Lamp On (Min)	Press right key to adjust the time (50)
Lamp Off (Min)	Press right key to adjust the time (10)
Set burn in cycle	Press right key to adjust the cycle
After setting up the time, choose Burn-In mode and hit enter	

Screen Defects (While replacing DMD Chip, DMD BD and Scaler BD)



< Figure: Zone A &B Definition >

4-5 Test Inspection Procedure

Change parts / Update	Scaler/ Board	Firmware	Color Wheel	Lamp Module	Engine Module	Rod Module
Version Update	v	v				
Color Wheel Index	v		v			
PC Calibration	v	v				
Video Calibration	v	v				
Reset lamp hour				v		
OSD Reset	v	v				
EDID	v					
Re-write Lamp Hour Usage	v					
Rod Adjustment					v	v

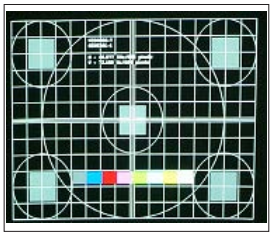
Note: If Color appears abnormal after changing Main Board Module, please do Color Wheel index adjustment.

4-6 PC MODE

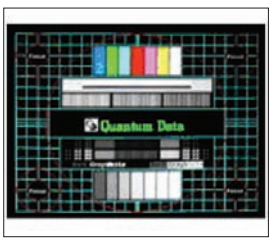
1. Frequency and tracking boundary

Procedure

- Test equipment: video generator.
- Test signal: analog 1280 x 1024@60Hz
- Test Pattern: general-1 or master
- Check and see if the image sharpness is well-performed.
- If not re-adjust by the following steps:
  (1) Select "Frequency" function to adjust the total pixel number of pixel clock in one line period.
  (2) Select "Tracking" function and use right or left arrow key to adjust the value to minimize video flicker.
- Adjust Resync or Frequency/Tracking/H. Position/V. Position to the inner screen.



General-1



Master

Inspection item
- Eliminate visual wavy noise by Rsync, Frequency or Tracking selection.
- Check if there is noise on the screen.
- Horizontal and vertical position of the video should be adjustable to the screen frame.

Criteria
- If there is noise on the screen, the product is considered as failure product.
- If there is noise on the screen, use auto or manual “frequency” function or “tracking” function to adjust the screen.
- The PC mode functionally sure be workable include support format with frequency and auto detected functional will be workable.

2. Light Leak

Procedure
- Test equipment: video generator.
- Test signal: analog 1080p@60Hz
- Test Pattern: gray 10 patterns
- Check if the light leaks.
  * Light leak on reflective edge, eyecatcher, bond wires and exposed metal.

Gray 10

Inspection item
- Light leak check.
- Bright blemish (dirty).

Criteria
- The pattern cannot accept the color level of the leakage is brighter than the gray 10 pattern.
- Ref. the Defect specification table

  Note: The defect criteria follows TI specification.

3. Blemish (Dark)

Procedure
- Test equipment: video generator.
- Test signal: analog 1080p@60Hz
- Test Pattern: blue 60

Blue 60

Inspection item
- Dark blemish check. (dirty)

Criteria
- The bright blemish is unacceptable when it appears on blue 60 pattern.
- Ref. the Defect specification table

  Note: The defect criteria follows TI specification.

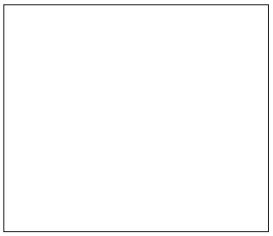
4. Dead Pixel (Bright pixel)

Procedure	- Test equipment: video generator. - Test signal: analog 1280x720@60Hz. - Test Pattern: full black
Inspection item	- Bright pixel check. Note: Frame dimension under operative zone 1 inch
Criteria	- Bright pixel is unacceptable. - Ref. the Defect specification table Note: The defect criteria follows TI specification.

Full black

5. Dead Pixel (Dark pixel)

Procedure	- Test equipment: video generator. - Test signal: analog 1280x720@60Hz. - Test Pattern: full white
Inspection item	- Dead pixel check. - White pattern (IRE=100) - Adjacent dark pixel.
Criteria	- The number of the dead pixels should be less or equal to 6 pixels. - Adjacent pixel with each other is unacceptable. - Ref. the Defect specification table Note: The defect criteria follows TI specification.

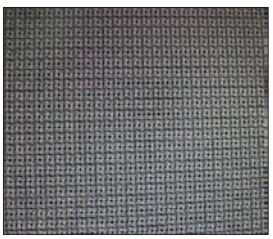


Full white

6. Focus test

Procedure	- Test equipment: video generator. - Test signal: analog 1024 x768@75Hz - Test Pattern: full screen or MEME Sony
Inspection item	- Focus check
Criteria	- From screen 2.5 M via visual to check the focus, look at the entire screen, focus shall be clear, crisp, and sharp over the entire surface of the display pattern. (Blur word on one of the corner after adjustment is acceptable. However, the word should at least be recognizable.)

Full screen

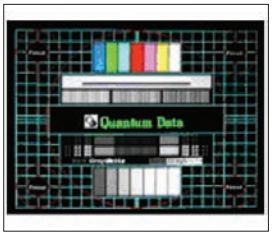


MEME Sony

7. Color performance

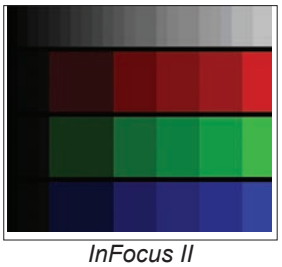
Procedure
- Test equipment: video generator.
- Test signal: DVI 480p,1080i
- Test Pattern: Master, In focus II or SMPTE RP-133

* Please refer to 4-2 to get into service mode. Use 480p &1080i signal, master pattern to do HDTV test. Color cannot discolor to purple and blue.



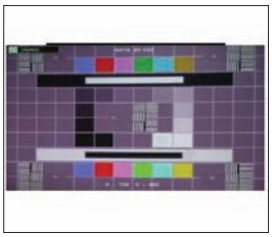
Master

Inspection item
- Check if each color level is well-functioned.
- Color saturation



InFocus II / 64 gray RGBW

Criteria
- Screen appears normal. It should not have any abnormal condition, such as lines appear on the screen and so on.
- Color appears normal.
- It is acceptable to have few lines flashing at the center and on the edge of 1080i image. However, rest of the image should appears stable.
- RGBW should all appear normal on the screen and sort from R -G-B-W.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Gray level should not have abnormal color or heavy lines.
- The PC mode functionally sure be workable include support format with frequency and auto detected functional will be workable



SMPTE RP-133

4-7 Calibration

1. Video calibration

Procedure
- Test equipment: video generator.
- Once scalar board is changed, Video calibration should be done as well.

  (1) Test signal: 720P

(2) Test Pattern: SMPTE BAR

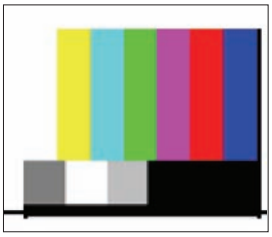
- Note

(1) Calibration pattern should be in fill screen mode.

(2) Please refer to 4-2 to get into Service Mode and OSD Reset.

(3) Choose and access Video Calibration for correction in service mode. Choose “menu” to leave the service mode after all.

**Note: Video adjustment can only be used once.If there is any circumstances which needs to be re-adjust ,the adjustment is only effective when you adjust at the odd number of times. Otherwise, the black will not be dark enough.*



SMPTE BAR

Check pattern
- Test signal: 720P
- Test pattern: In focus SMPTE BAR.

Inspection item
- Color saturation

Criteria
- There should not have any lack of SMPTE BAR. The color should appear normal and sort in right order.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Gray level should not have abnormal color or heavy lines.

2. PC calibration

Procedure
- Test equipment: video generator
- Once scaler board is changed, PC calibration should be done as well.

(1) Test signal analog: 800x600@60Hz

(2) Test Pattern: gray 16 (800x600@60Hz)

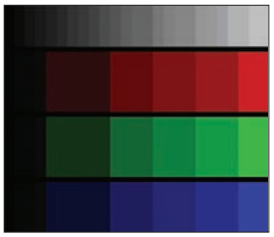
- Note

(1) Calibration pattern should be in fill screen mode.

(2) Please refer to 4-2 to get into Service Mode and OSD Reset.

Gray 16

(3) Choose and access PC Calibration for correction in service mode. Choose “menu” to leave the service mode after all.



In focus II / 64 gray RGBW

Check pattern
- Test signal: analog 800 x 600@60Hz
- Test pattern: In focus II or 64 gray RGBW

* After finishing ADC adjustment, check 64 gray RGBW pattern, adjust CW index in color setting of service mode.

Inspection item
- Color saturation

Criteria
- There should not have any lack of RGBW. The color should appear normal and sort in right order.
- Color levels should be sufficient and normal. (the unidentified color levels on both left and right sides should not over 8 color levels.)
- Gray level should not have abnormal color or heavy lines.

Defect specification table

Order	Symptom	Pattern	Criteria
1	Bright pixel (dots)	Black pattern (IRE=O)	A+B=0
2	Dark pixel(dots)	White pattern	A+B=6
3	Unstable pixel (dots)	Any pattern	A+B=1
4	Adjacent dark pixel (dots)	Any pattern	A+B=0
5	Dark blemish (Dirty)	Blue 60 pattern	A+B=2 (diameter <1/2 inch)
6	Bright blemish (Dirty)	Gray 10 pattern	A+B=2 (diameter <1/2 inch)
7	Bright dot on frame	Black pattern	2

4-8 Optical Performance Measure

Inspection Condition
- Environment luminance: 5 Lux
- Product must be warmed up for 3 minutes
- Distances from the screen: 2.5 M
- Screen Size: 60 inches diagonal
- Reset to default before measurement

1. Test equipment

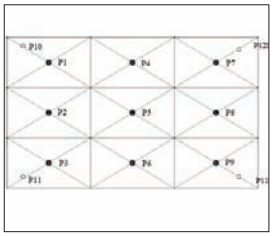
Procedure
- Test equipment: video generator.
- Test signal: analog 1920x1080@60Hz.

2. Brightness

Procedure
- Full white pattern
- Use CL100 to measure brightness values of P1~P9.
- Follow the brightness formula to calculate brightness values.

☼ Brightness Formula

Avg. (P1+P2+P3+...+P9) x1.1 m²



Full white pattern

Criteria
- 1400 ANSI Lumens

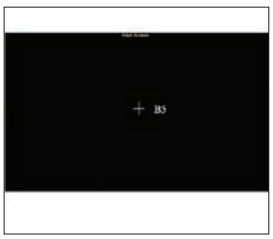
3. Full On/Full Off Contrast

Procedure
- Full white pattern & full black pattern
- Use CL100 to measure brightness values of full white pattern P5 & full black pattern B5 (see image: full white)
- Follow Contrast formula to calculate contrast values.

☼ Contrast Formula

P5/B5

Note: P5=center of white image



Full black pattern

B5 = the center of black image.

Criteria • 1200:1

4. Uniformity

Procedure - Full white pattern

- Use CL100 to measure brightness values of P1~P9 (see image: full white).
- Follow the Uniformity formula to calculate average values.

☼ Uniformity Formula

ANSI Uniformity = Avg.(P1,P3,P7,P9)/P5 ×100%

Criteria • 60 %

4-9 Video Performance

1. CVBS

Procedure - Test equipment: DVD player

- Test signal: CVBS

Inspection item - Video performance test

Inspection Distance - 1.8 M ~2.5 M

Criteria - Check any abnormal color, line distortion or any noise on the screen.

Motion video

2. S-Video

Procedure - Test equipment: DVD player

- Test signal: S-Video

Inspection item - Video performance test

Inspection Distance - 1.8 M ~2.5 M

Criteria - Check any abnormal color, line distortion or any noise on the screen.

3. HDTV/ Component

Procedure	- Test equipment: DVD player
	- Test signal: Ycbcr/YPbPr
Inspection item	- HDTV performance test
Inspection Distance	- 1.8 M ~2.5 M
Criteria	- Check any abnormal color, line distortion or any noise on the screen.

4. HDMI Test

Procedure	- Test equipment: DVD Player with HDMI output
	-Test signal: 480p, 1080p
Inspection item	- HDMI performance test
Inspection Distance	- 1.8 M ~2.5 M
Criteria	- Ensure if the image is well performed and the color can not discolor.

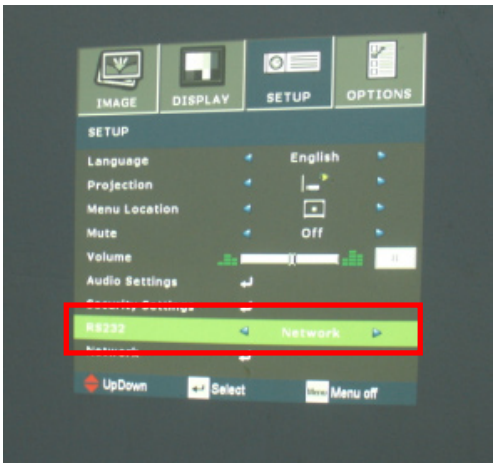
5. Audio Test

Procedure	- Test equipment: DVD player
	- Test signal: CVBS
Inspection item	- Audio performance test
Inspection Distance	- 1.8 M ~2.5 M
Criteria	- Check the sound from speakers
	- Check “Volume” is normal
	- Check “Mute” is normal

4-10 Network Function Test

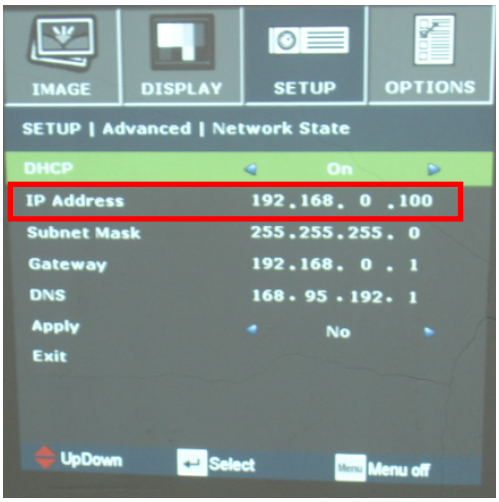
1. Write down Projector IP

- Press “Menu” to get into OSD Mode.

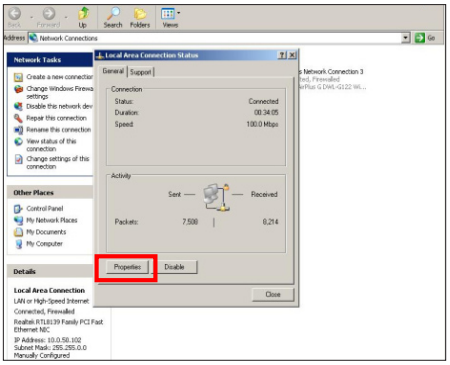


- Use Left or Right button to select “SETUP”, then press down button to remove the light mark to “RS232”, then press “Enter”, select “Network”, press “Enter”.

- Use down button to remove the light mark to “Network” then press “Enter”, the picture will show on screen, then write down the IP address: 192.168.0.100.

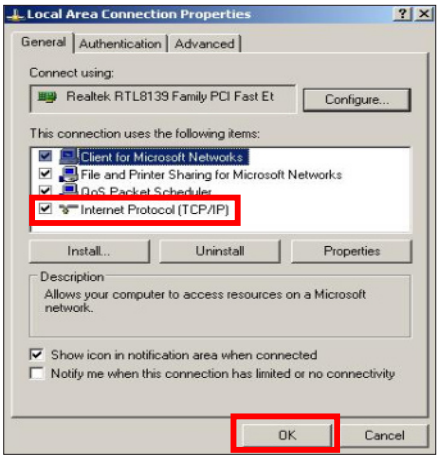


2. Network Setting



- Open the “Local area connection”, choose properties.

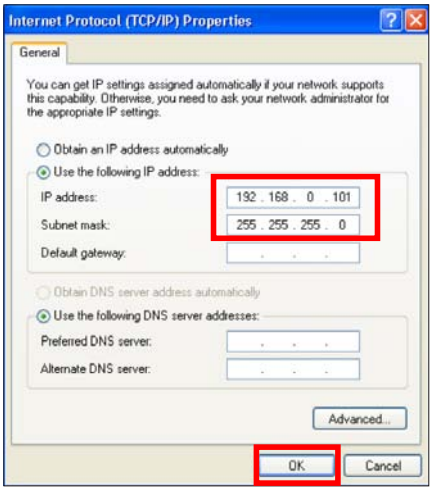
- Select “Internet protocol (TCP/IP)”.



- Modify the IP address to 192.168.0.101, and modify Subnet mask to 255.255.255.0.

Note: The HOST ID (192.168.0.XXX) of PC IP address must be different from the projector IP address written down in step 1.

- Click “OK”.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 101
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

3. Read Projector Information

- Connect the PC and the Projector with LAN Cable.

- Click “Internet Explorer”.

- Write the IE address: http://192.168.0.100/

- Then the information will be shown on the web

4-11 Others

1. Functional Inspection

Keypad button	- All keypad buttons must operate smoothly.
General	- All OSD functions must be checked for functionality. When OSD menu is displayed, there shall be no visible peaking, ringing, streaking, or smearing artifacts on the screen.
Factory Default	- The factory settings (with appropriate centering, size, geometry distortion, etc.) shall be displayed upon “Re-call” is selected from OSD
Display Size	- All preset modes shall expand to full screen size using OSD Horizontal and Vertical Size controls
Display Data Channel (DDC)	- The purpose of the DDC test is to verify the DDC1/ DDC2B operation of the projector and to verify Plug & Play function.

Acoustic - High pitch sound from cooling fan and color wheel is unacceptable.

2. Check points for exterior and print pattern

Check item	Check point
Text & Pattern	missing letters & pattern or blurry prints are unacceptable.
Exterior	dirt, scrape, water ripples and uneven color are unacceptable.
Buttons	stuck buttons are unacceptable.
Focus Ring	Focus ring is functioning smoothly.
Logo	missing logo, missing prints and blurry prints are unacceptable
Screw	All screws should be fixed and in right type.
Elevator	Elevator is well-functioned. Stuck key is unacceptable.
Pedestal	well-functioned

Chapter 5

Firmware Upgrade

5-1 Equipment Needed

Software: (DDP 3021)

- Appcode.inf
- FlashUpgrader.exe
- USB Driver

Hardware:

- Projector
- Power Cord (P/N 42.50115G001)
- USB Cable:42.00280G001
- PC

5-2 USB Driver Setup Procedure

1. Get into FW mode

- Hold on "Enter" & "Right" button, then plug in the power cord, the Temp & Lamp & Power LED will light on and appear blue, then losing "Enter" & "Right" button.
- Connect projector with PC by USB cable.

2. Execute Program

(1) "Found new hardware wiszard" will appear on the screen.

(2) Select "Install from a list or specific location (Advanced)".

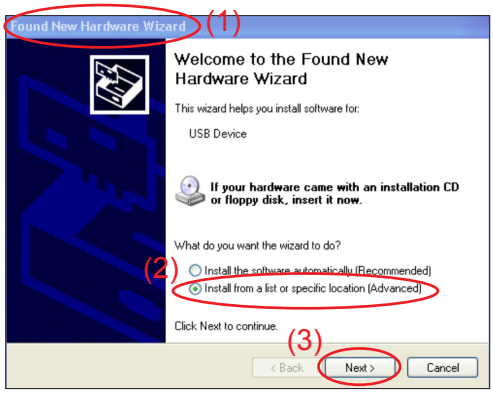
(3) Then click "Next".

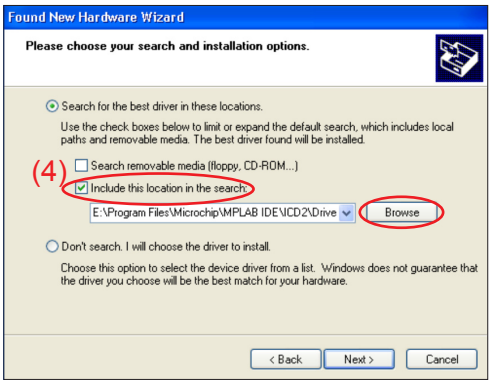
(4) Select "Include this location in the search", then click "Browse".

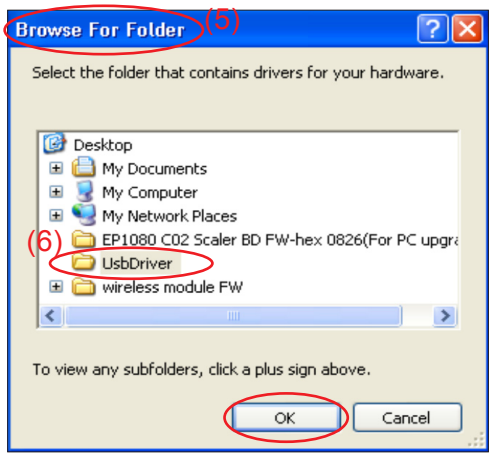
(5) "Browse For Folder" will be appear on the screen.

(6) Select "UsbDriver", then click "OK".

Note: - Windows Find New hardware Wizard will show, just wait a moment.

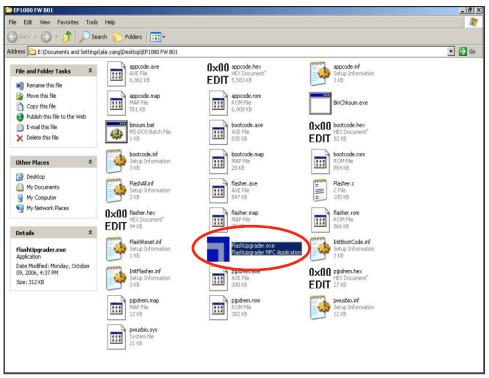

Found New Hardware Wizard
(1)
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
USB Device
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
(2)
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
(3)
< Back
Next >
Cancel


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
(4)
Search removable media (floppy, CD-ROM...)
Include this location in the search:
E:\Program Files\Microchip\MPLAB IDE\CD2\Drive
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel



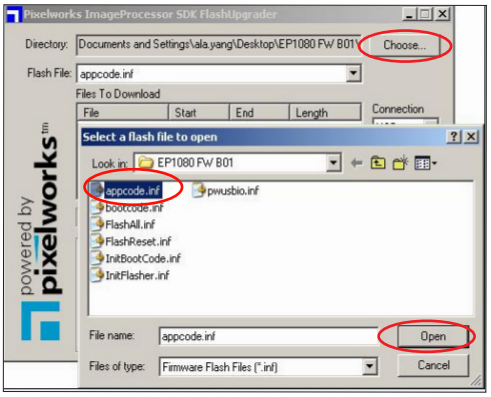
5-3 Firmware Upgrade Procedure

1. Make sure the projector get into FW mode.

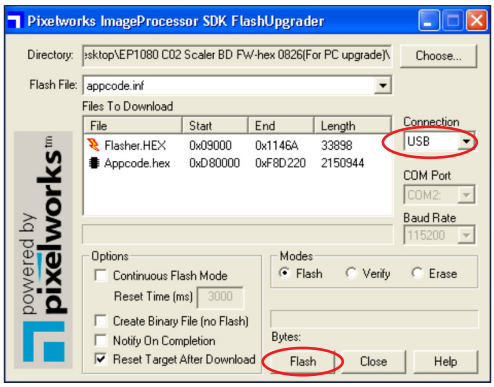


2. Execute "FlashUpgrader.exe".

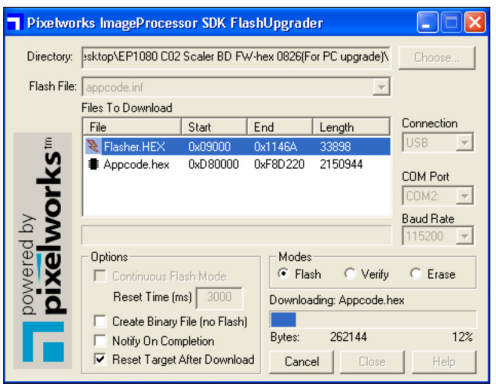
3. Click "Choose" and select "appcode.inf" , then click "open".



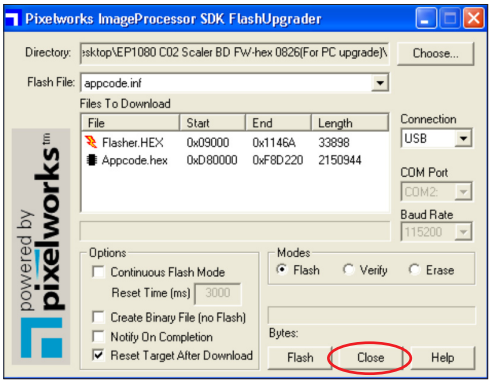
4. Process
   - Select the USB port which is connected with the fixture, baud rate should be 115200.
   - Click "Flash".



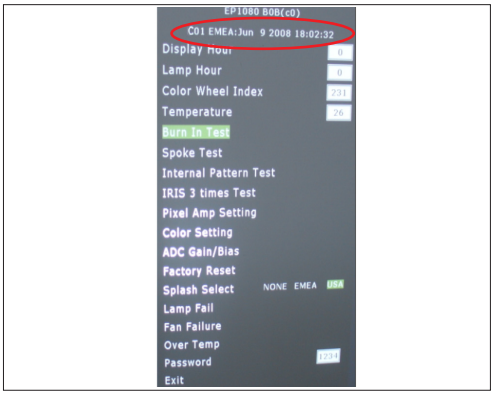
5. Firmware upgrade process will take about 2 minutes.



6. When Firmware upgrade process is finished, the projector's Temp & Lamp & Power LED will light off, the Power LED will light on and appear red, then close FlashUpgrader program and unplug Power Cord to finish firmware upgrade.



7. Then get into the service mode 1 to check the firmware version.



Chapter 6

EDID Upgrade

6-1 EDID Introduction

Extended Display Identification Data is a VESA standard data format that contains basic information about a display device and its capabilities, including vendor information, maximum image size, color characteristics, factory pre-set timings, frequency range limits, and character strings for the monitor name and serial number.

The information is stored in the display and is used to communicate with the system through a Display Data Channel (DDC), which sites between the display device and the PC graphics adapter. The system uses this information for configuration purposes, so the monitor and system can work together.

Note: - If a display device has digital input ports, like DVI or HDMI, but without EDID in its scaler board, the display device will show no image while the input source is digital signal.

- The EDID upgrade procedure for EP1080 Series is the same. Here, we take EP1080 as an example.

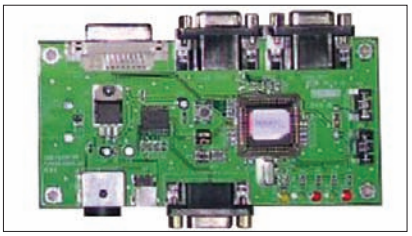
6-2 Equipment Needed

Software

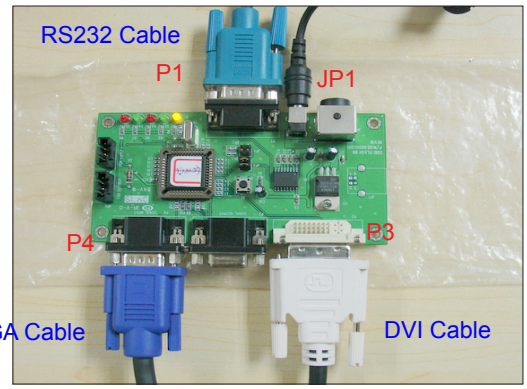
- EDID Program (Generic V0.51)
- EDID File (Optoma-EP1080 EDID-B01.ini)

Hardware

- Projector
- Generic Fixture :80.00001.001 for EDID Key-in (Fixture: JP3 must be closed)
- Power cord
- RS-232 Cable (pin to pin, F-M): 42.83618G001
- Monitor
- PC
- DVI cable: 42.83N06G001
- VGA cable: 42.87305G001
- Power adapter for fixture: 47.57702G001
- DVI-HDMI adapter: 42.82B13G001



6-3 Setup Procedure (VGA-2 & DVI-D Port)

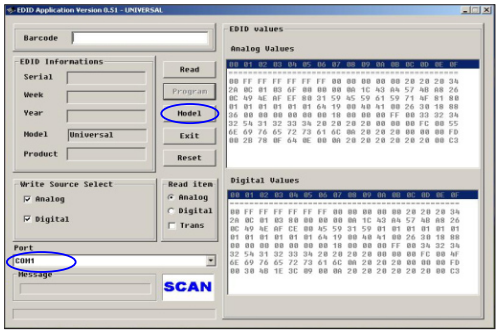


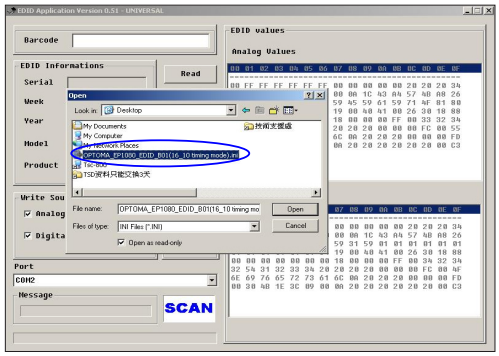
1. Connect all ports

- Power adapter to fixture JP1
- Fixture P1 to PC COM2 Port
- Fixture P4 to Projector VGA-2 port
- Fixture P3 to Projector DVI-D port
- Power on fixture

6-4 EDID Key-In Procedure (VGA-2 & DVI-D Interface)

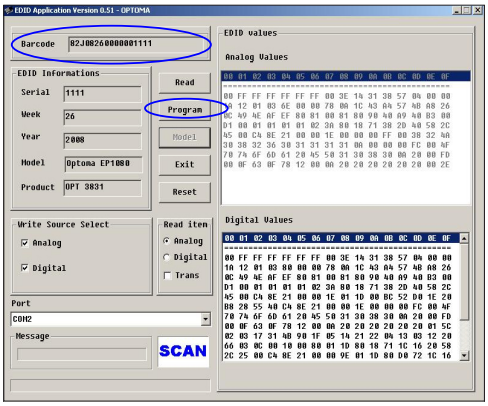
1. Double click "EDID" to execute EDID program.
2. Choose model
   - In the port selection bar, please choose the port that you use. Example: if you use "COM2," choose COM2 in the port selection.
   - Click on "Model".
   - Choose the the source file (*.ini) "OPTOMA_EP1080_EDID_B01.ini" and open it.





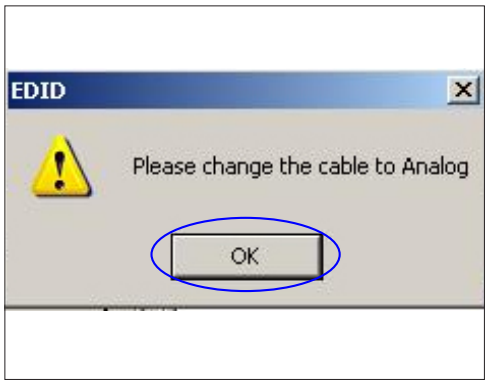
3. Programming

- Key in the serial number into the barcode blank space.
- In "Write Source Select," make a check in “Analog”and “Digital”.
- Click "Program."



4. Change the cable to Analog

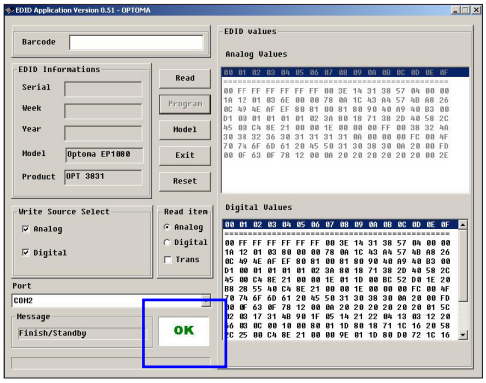
- When the message “Please change the cable to Analog” is shown on the screen,click “OK” button.



5. Change the cable to Digital

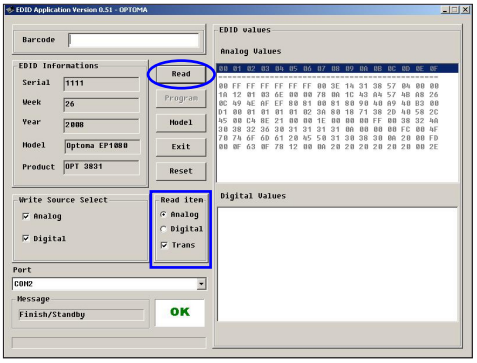
- When the message "Please change the cable to Digital" is shown on the screen, click "OK" button.

6. When the EDID program is completed, a message "OK" will appear on the screen.



7. Read EDID "Analog" information

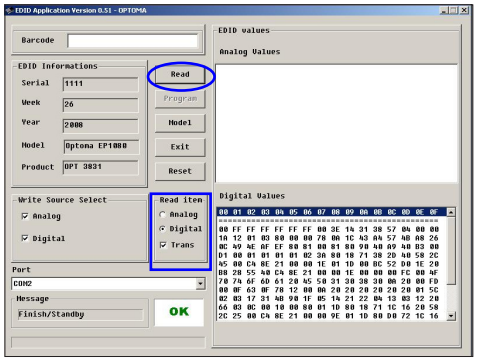
- In the Read item, select "Analog" and "Trans", then click the "Read" button.



8. Read EDID "Digital" information

- If EDID's information is correct,select "Digital" and "Trans" in the Read item, then click the "Read" button.

- EDID informations will show the result.

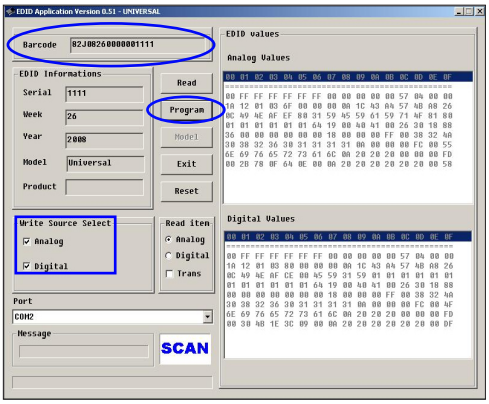


6-5 Setup Procedure (VGA-1 & HDMI Port)

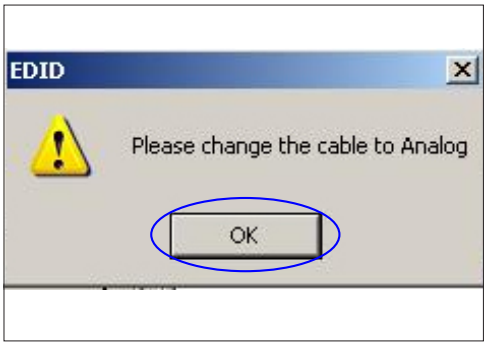
1. Unplug P4 cable from projector and plug it into VGA-1 port.

2. Unplug P3 cable from projector
   - Use DVI-HDMI adapter to connect with DVI cable,then plug it into HDMI port.

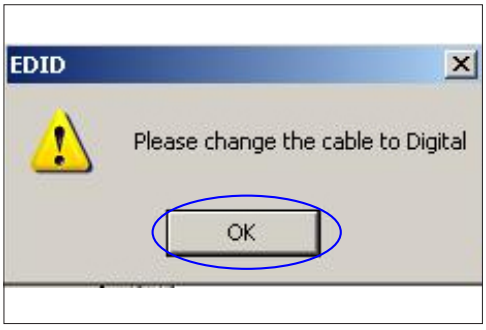
6-6 EDID Key-In Procedure (VGA-1 & HDMI Interface)



1. Programming
   - Key in the serial number into the barcode blank space.
   - In "Write Source Select" item, make a check in "Analog" and "Digital".
   - Click "Program".

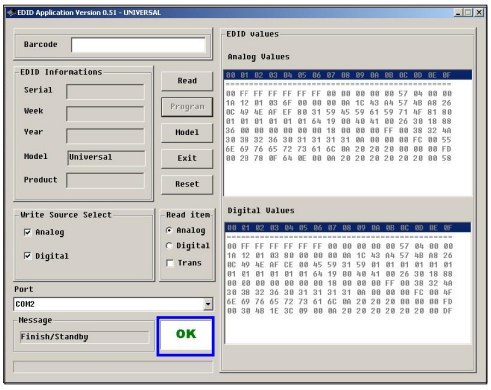


2. Change the cable to Anlaog
   - When the message "Please change the cable to Analog" is shown on the screen, click "OK" button.



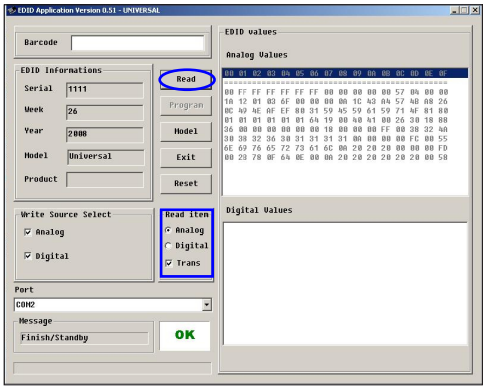
3. Change the cable to Digital
   - When the message "Please change the cable to Digital" is shown on the screen, click "OK" button.

4. When the EDID program is completed,
   a message "OK" will appear on the screen.

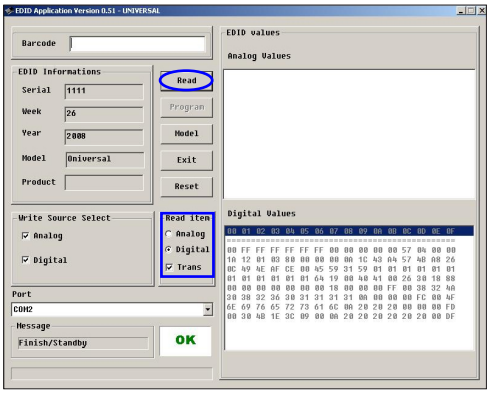


5. Read EDID "Analog" information
   - In the Read item,select "Analog" and "Trans",then click the "Read" button.

6. Read EDID "Digital" information
   - If EDID's information is correct,select "Digital" and "Trans" in the Read item,then click the "Read" button.



   - EDID informations will show the result.



Chapter 7

Network FW Upgrade Procedure

7-1 Equipment Needed

Software :

- EP1080_Tfufls_A05.bin (*.bin)

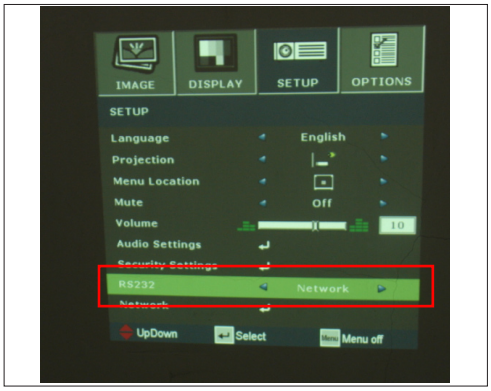
Hardware :

- Projector
- Power Cord
- LAN Cable
- PC

Note: - The Network FW Upgrade Procedure for EP1080 Series is the same, here we take EP1080 as an example.

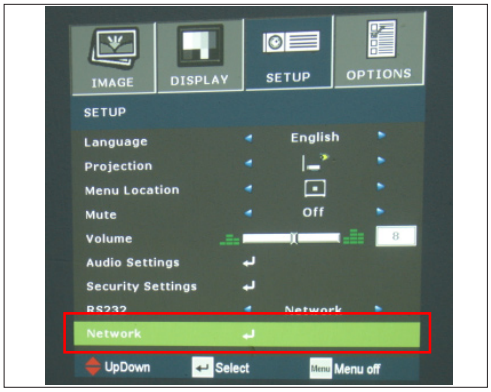
7-2 Read Projector IP

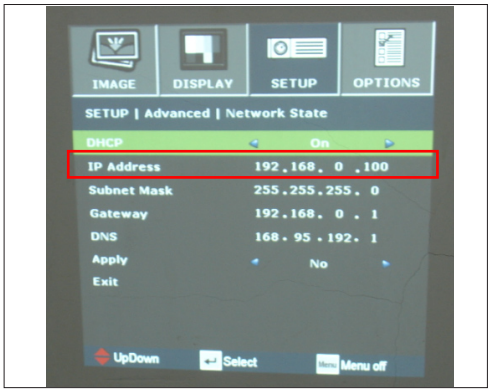
1. Turn on the unit, Press "Menu" button to get into OSD Mode, Use "down" button to remove the light mark to "RS232", then press "Enter" button, select "Network", press "Enter" button again.



2. Select "Network", press "Enter" button.

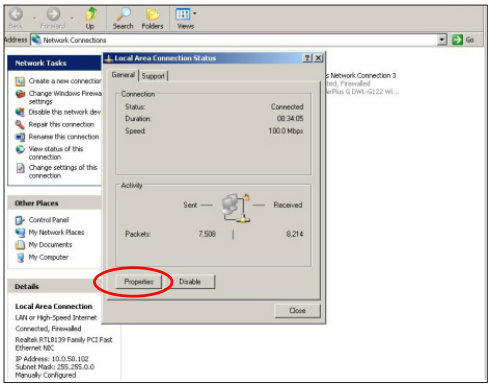
3. Remove the light mark to "DHCP", then press "Enter" button, select "ON", press "Enter" button, the IP address will be shown on screen.





7-3 Network Setting

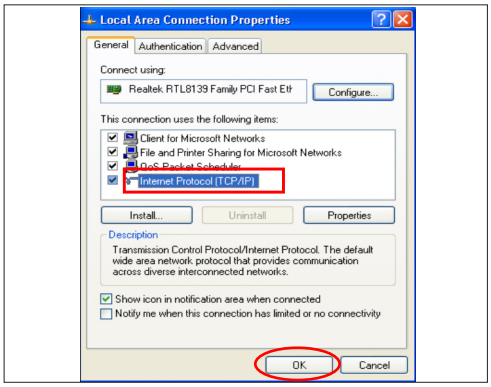
1. Open the "Local area connection", choose properties.



2. Select "Internet protocol (TCP/IP)".

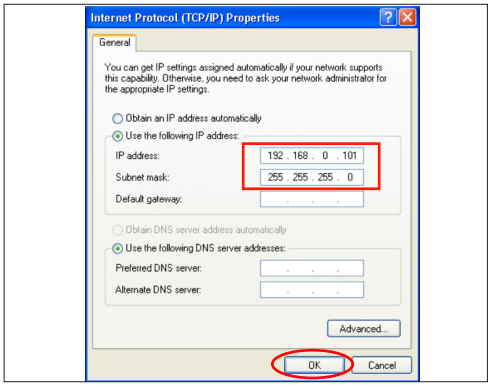
3. Modify the IP address to 192.168.0.101, and modify Subnet mask to 255.255.255.0.

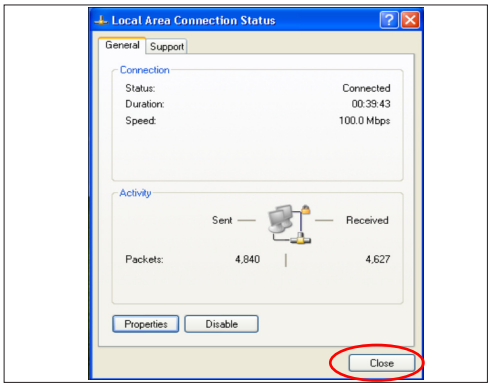
Note: - The HOST ID (192.168.0.XXX) of PC IP address must be different from the projector IP address written down in step 3 of 7-2.



4. Click "OK".

5. Click "Close" to quit the setting screen.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 101
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

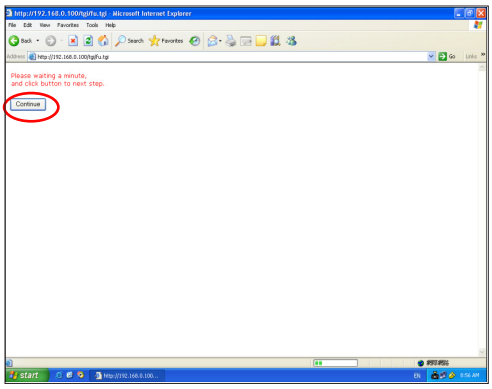


7-4 PC Hardware Link

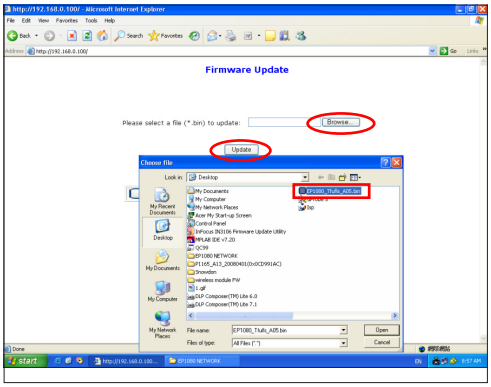
1. Connect PC with the Projector by LAN Cable.

2. Execute "Internet Explorer".

3. Key-in IP Address "http:// 192.168.0.100/tgi/fu.tgi" to get into Firmware Update screen,and then click "Continue".

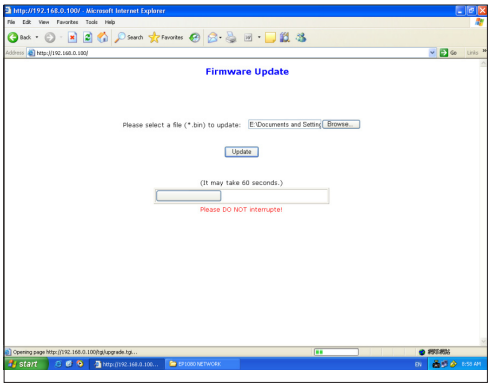


4. "Firmware Update" image will appear.
   - Click "Browse" button to select the FW file (*.bin) which you saved.
   - Click "Update" to start update.

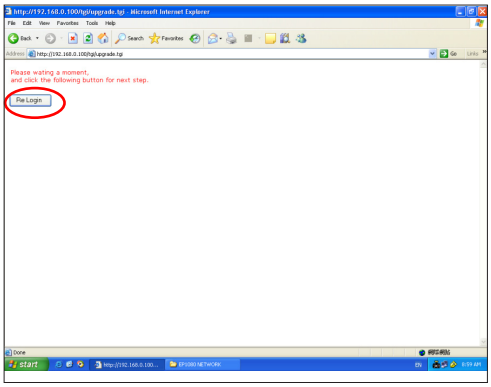


5. Firmware Update procedure.

6. Click "Re Login".

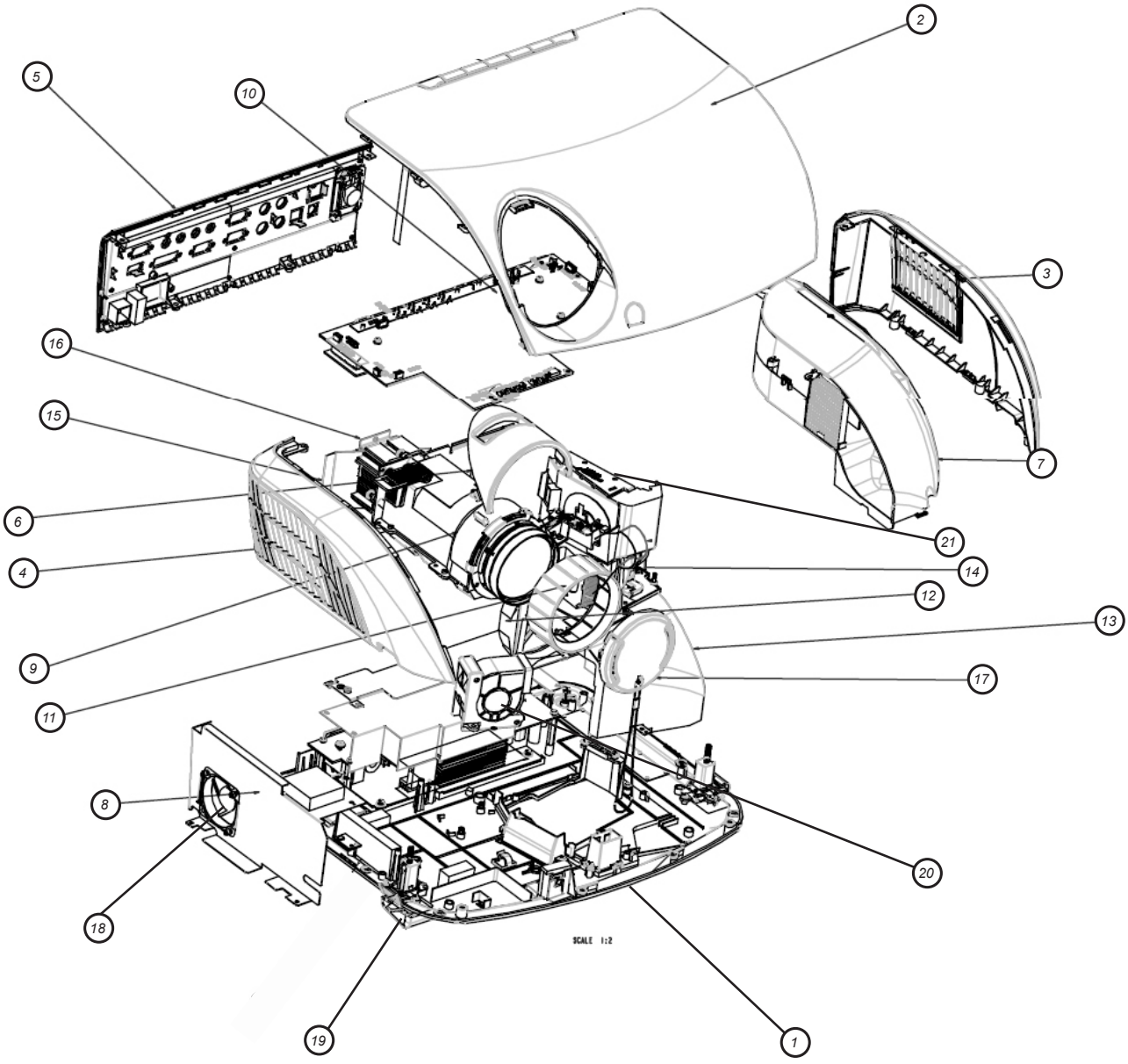


7. Firmware upgrade procedure completes.
   - The Projector Network FW version will appear.



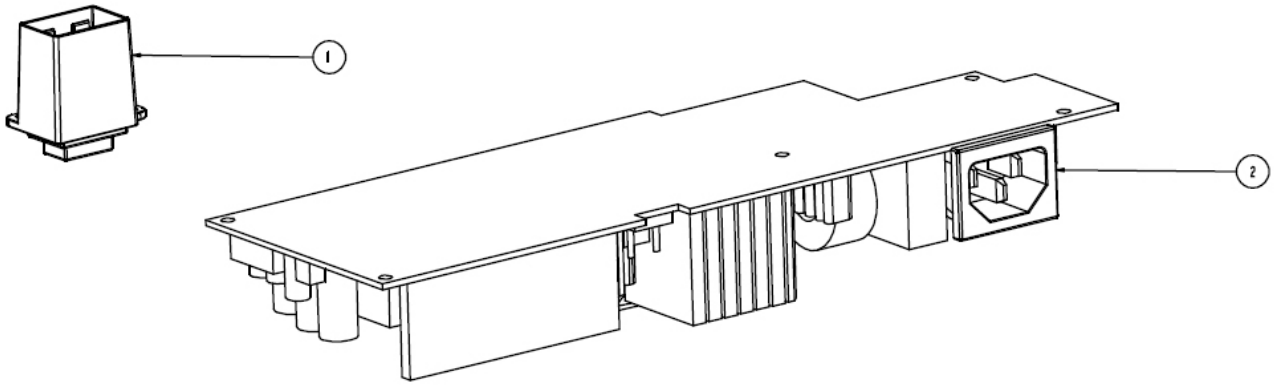
Appendix A

D.C. EP1080



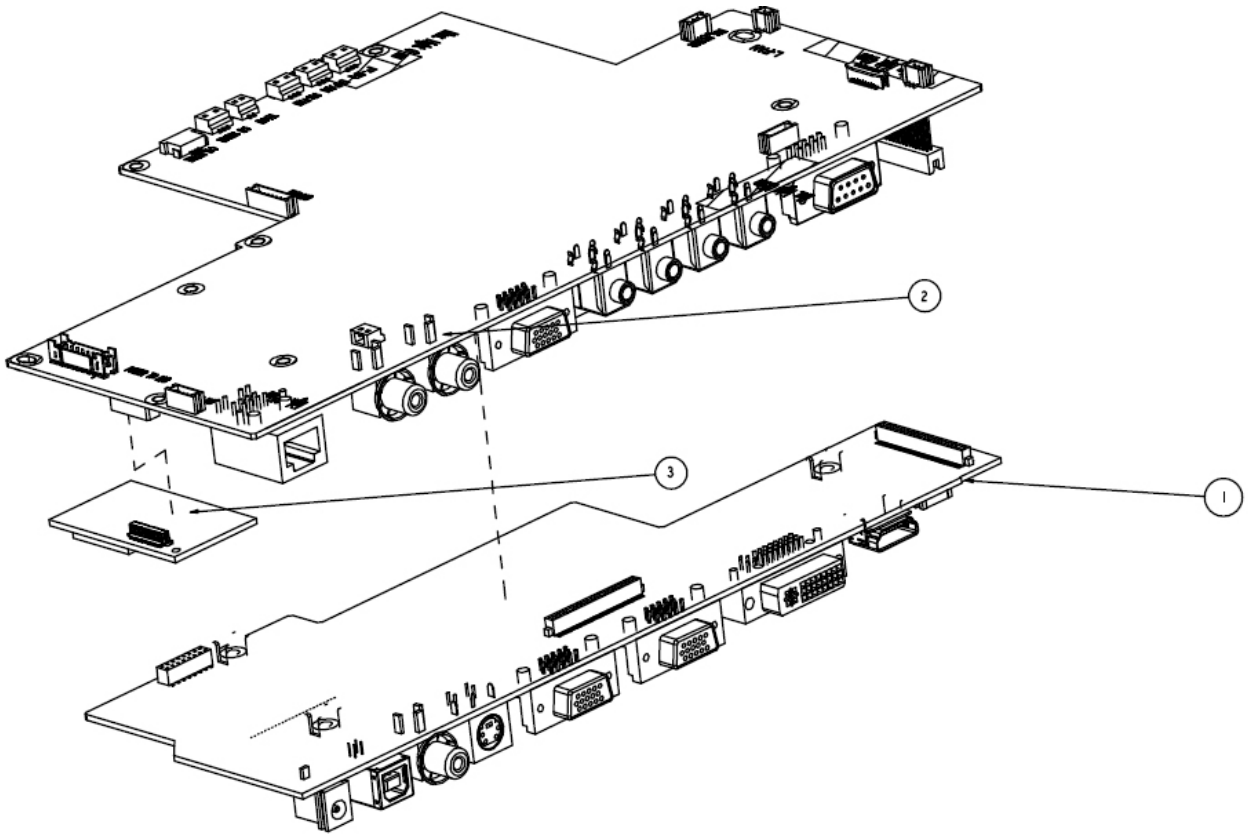
item	P/N	Description	Parts Supply
1	75.87T02G001	ASSY BASE HOUSING MODULE EP1080	V
2	70.8BH09G001	ASSY TOP COVER MODULE EP1080	
3	75.87T05G011	BUY ASSY RIGHT COVER EP1080	V
4	75.8BH08G001	ASSY LEFT COVER EP1080	V
5	75.8BH03G002	BUY ASSY REAR COVER MODULE EP1	V
6	51.83C07G022	LENS SHELTER (BLACK) EP1080	V
7	75.83C04G002	BUY ASSY AIR-DUCT EP910	
8	70.8BH11G001	SUB ASSY LEFT SHIELDING MODULE	
9	70.8BH04G001	ASSY OPTICAL ENGINE MODULE EP1080	
10	70.8BH03G001	ASSY PCBA M/B+IO/B MODULE EP1080	
11	51.83C08G022	FOCUS RING (BLACK) EP1080	V
12	70.8BH17G001	ASSY FAN9225 MODULE EP1080	
13	61.83C05G002	BRACKET FAN9225 AIR-MASK AL EP	
14	70.8BH01G001	ASSY LAMP MODULE EP1080	
15	51.8BH15G001	SHIELDING LEFT COVR MYLAR EP1080	
16	61.8BH07G001	AC INLET SHIELDIN EP1080	
17	75.8BH10G001	LENS CAP MODULE EP1080	
18	49.83C03G001	SUNON 50*10 AXIAL FAN/GM1205PF	V
	70.8BH30GR01	ASSY ELEVATOR FOOT MODULE(SERVICE)	V
19	70.87T05G001	ASSY ELEVATOR FOOT RIGHT MODUL	
20	49.82B01G001	MISC BLOWER GB1206PTV2-AY R TYPE	V
21	70.8BH29GR01	ASSY LAMP DRIVER WAVEFORM FOR EP1080 (SERVICE)	V

Assy LVPS Module EP1080



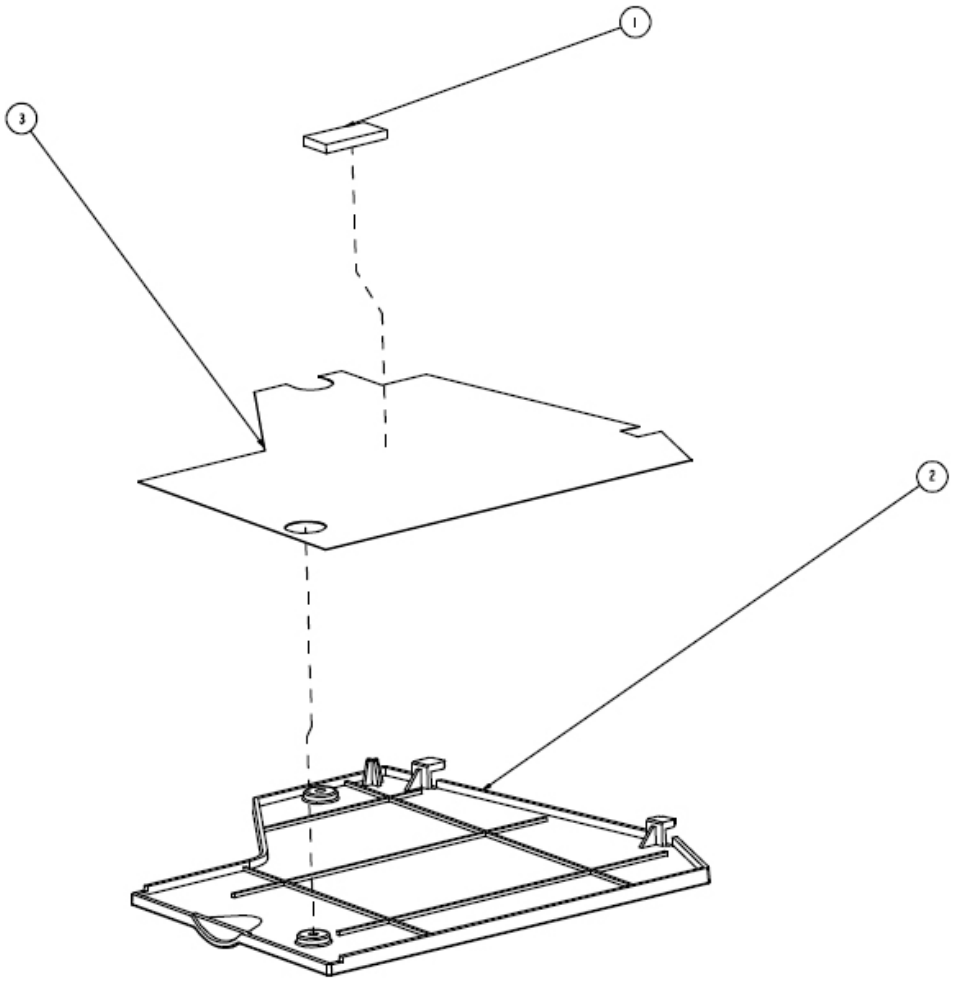
item	P/N	Description	Parts Supply
1	75.83C13G001	BUY ASSY INTER LOCK SWITCH ACR	V
2	75.85H15G001	ASSY LVPS MATRITEK 300W(HD81)	V

Assy PCBA Scaler/B+Formatter/B Module EP1080



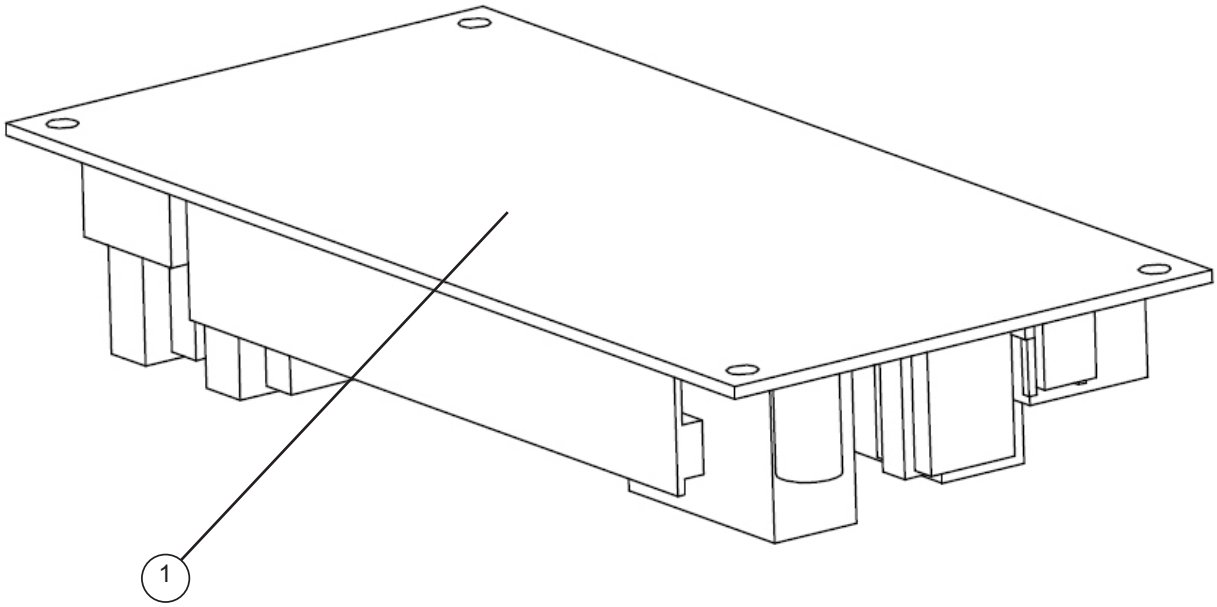
item	P/N	Description	Parts Supply
1	80.8BH01G002	PCBA SCALER BOARD FOR EP1080	V
2	80.8BH06G002	PCBA FORMATTER BOARD FOR EP1080	V
	70.8BH25GR01	ASSY PCBA LAN MODULE EP1080(SERVICE)	V
3	70.8BH23G001	ASSY PCBA LAN MODULE EP1080	

Assy LAMP COVER Module



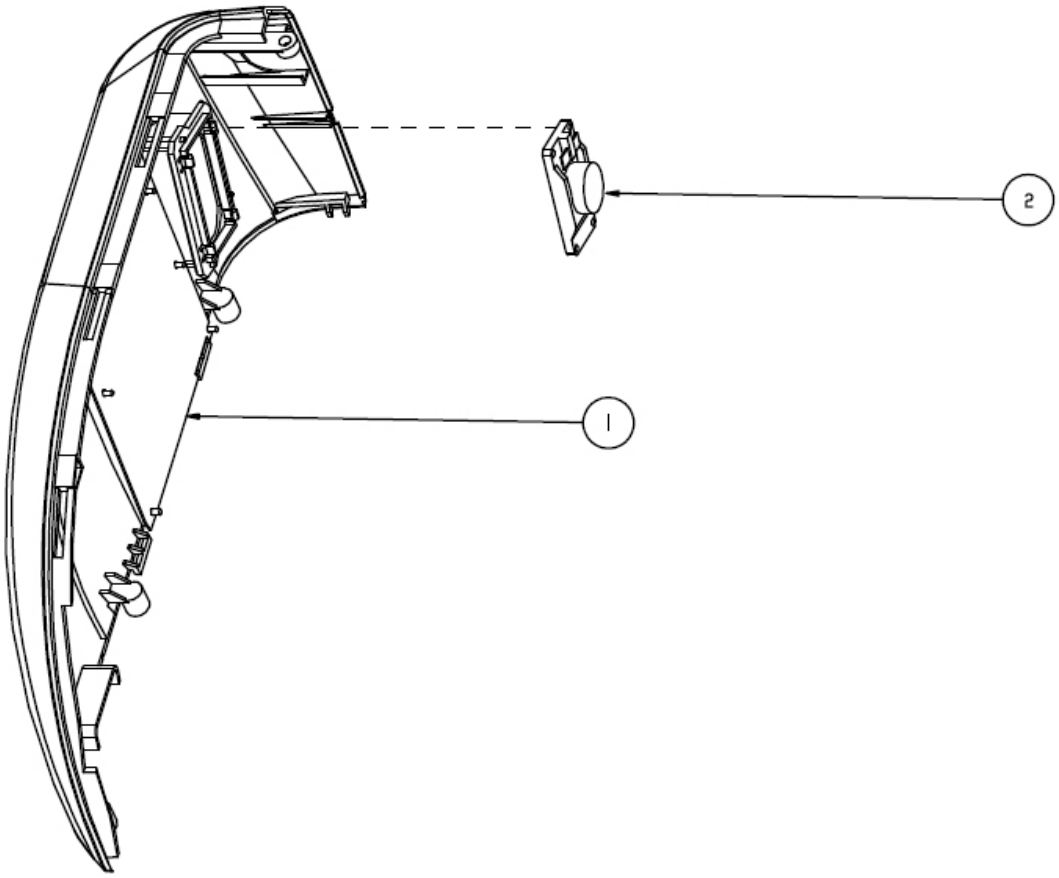
item	P/N	Description	Parts Supply
	70.87T16GR01	ASSY LAMP COVER MODULE HD81-LV(RMA)	V
1	41.82G12G002	EMI GASKET W10*L20*H2.5mm	
2	51.83C06G021	LAMP COVER BLACK HD81-LV	
3	61.83C20G001	AL SHIELDING 0.1t FOR LAMP COVER	

Assy LAMP DRIVER Module



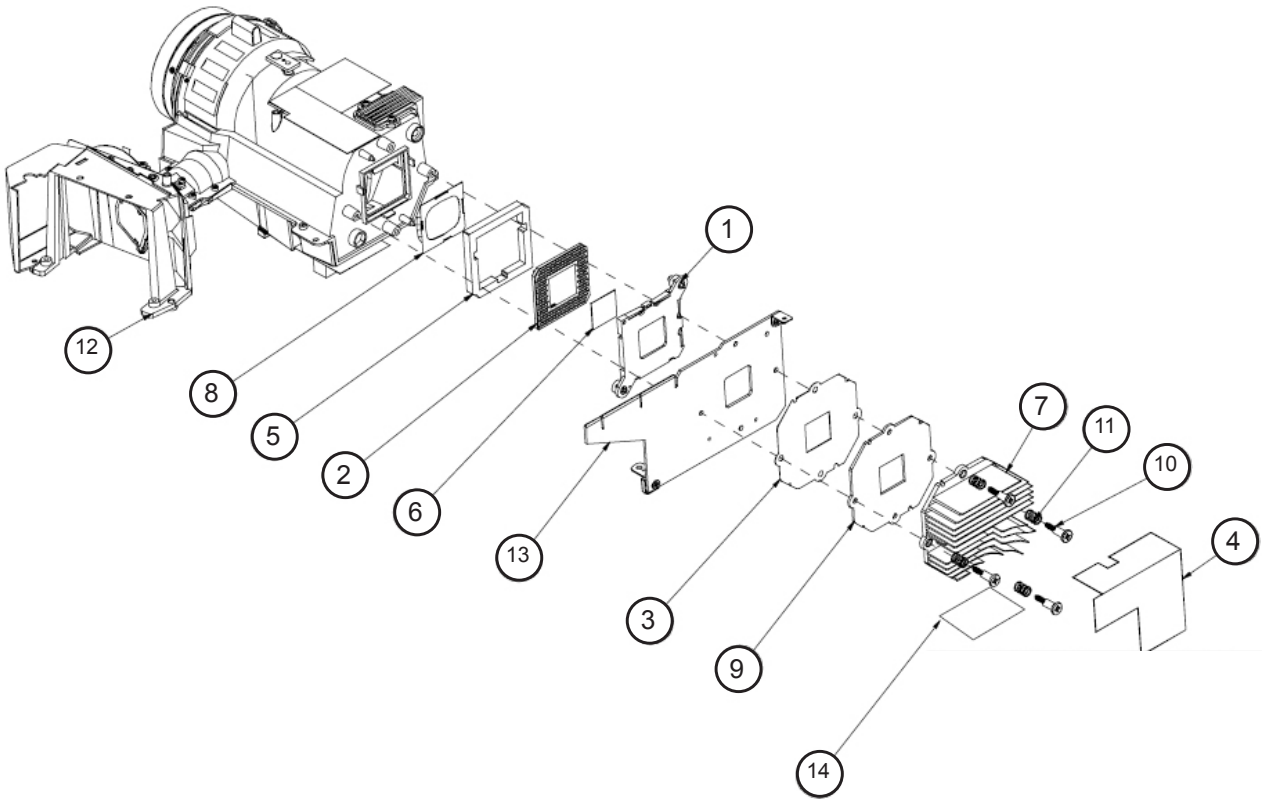
item	P/N	Description	Parts Supply
	70.8BH29GR01	ASSY LAMP DRIVER WAVEFORM FOR EP1080 (SERVICE)	V
1	75.8AY02G001	ASSY LAMPDRIVER PHILIPS 300W	

Assy LEFT COVER EP1080



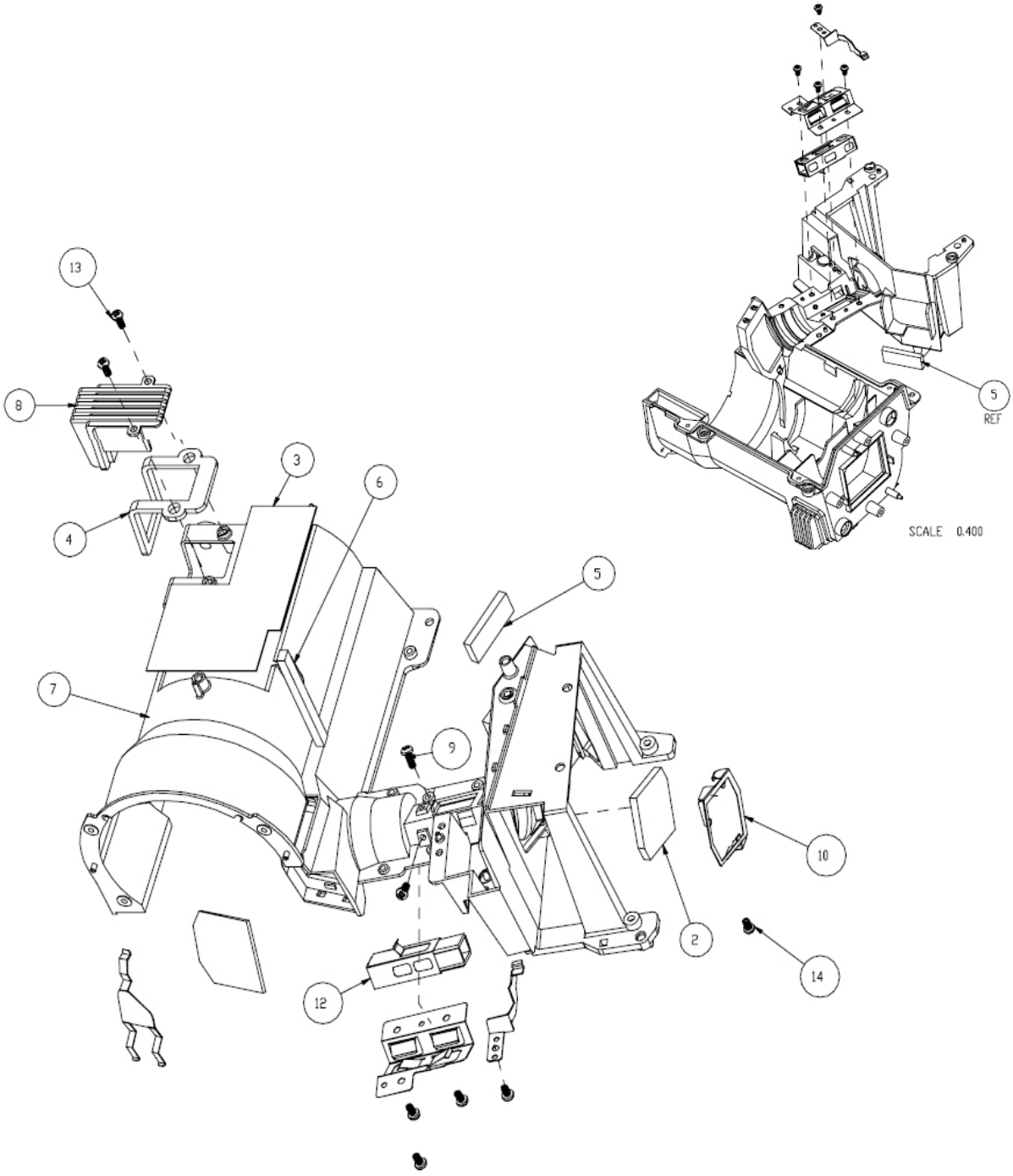
item	P/N	Description	Parts Supply
1	75.8BH08G001	BUY ASSY LEFT COVER EP1080	V
2	49.83C01G201	SPEAKER 2W4OHM L100mm REAR COVER	V

Assy Optical Engine Module EP1080



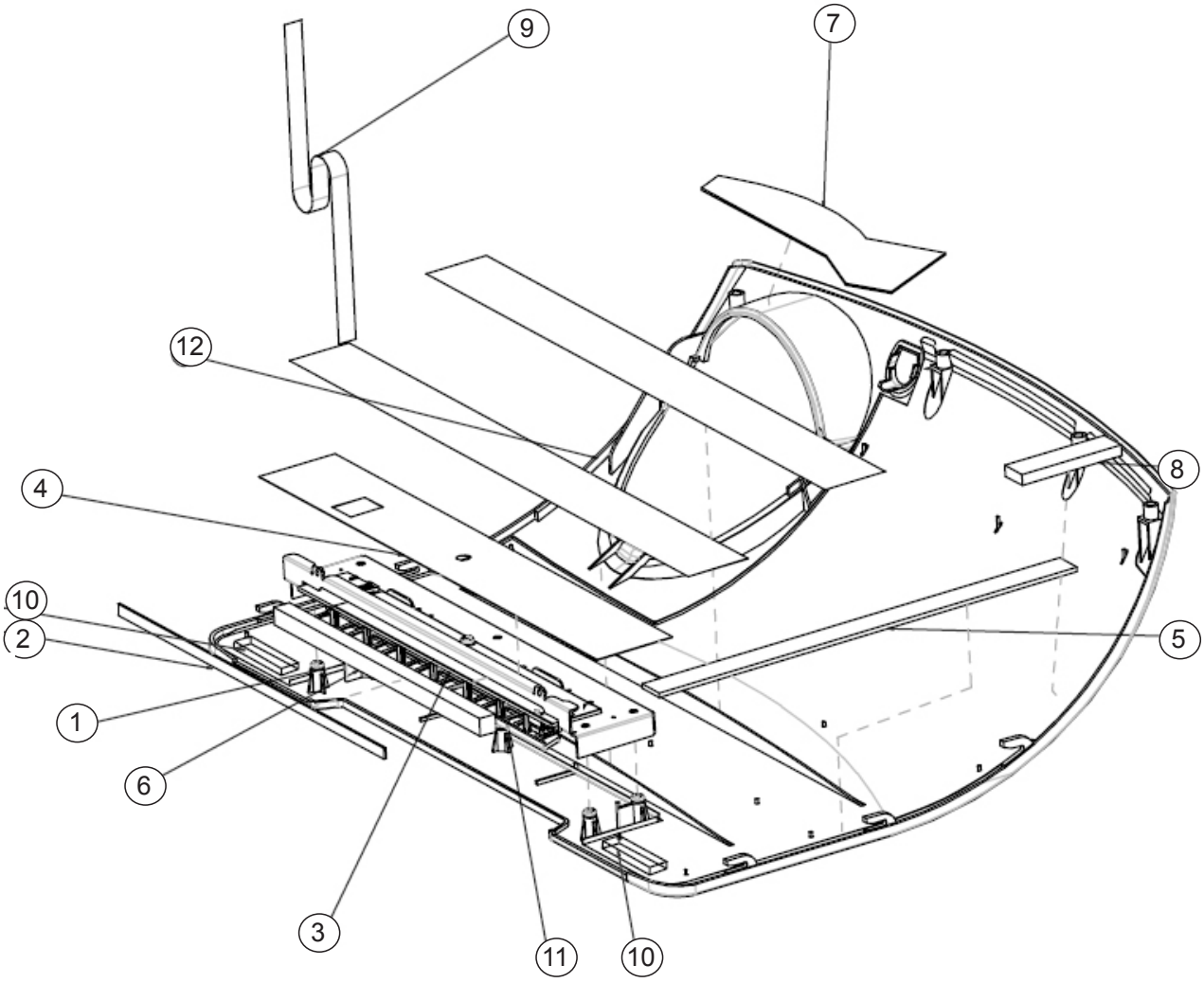
item	P/N	Description	Parts Supply
1	11.00500G001	CNNT 335P DMD LGA SOCKET 1080P HD81	
2	48.87ZDMGD01	DMD 0.95” 1080P 2x LVDS DMD DC1-10 FOR SUPER VALUE	V
3	51.82B43G001	INSULATOR MYLAR BETWEEN DMD-BD AND HEAT SINK	
4	51.83C30G001	MYLAR INSULATION DMD HEAT SINK EP910	
5	52.82B03G001	DUST COVER RUBBER F12 5100MP	
6	52.8AY22G001	0.96” TYPE-A DMD THERMAL PAD/ Fujipoly XR-Hj K=14 20x15x0.3mm	
7	61.8AY20G011	DMD HEATSINK EP1080	
8	61.85H14G001	DMD MASK HD81	
9	61.85H34G001	DMD-PCB PRESSCOVER HD81	
10	61.82B36G001	SCREW M3*10 IHSPC ‘’	
11	61.8BH06G001	HEATSINK SPRING EP1080	
12	70.8BH18G001	BUY ASSY OPTICAL MODULE EP1080	
13	80.87C02G011	PCBA DMD BD1 ENTEK FOR HD80	V
14	41.81U02G001	EMI TAPE W40*L40mm	

Assy Engine Base EP1080



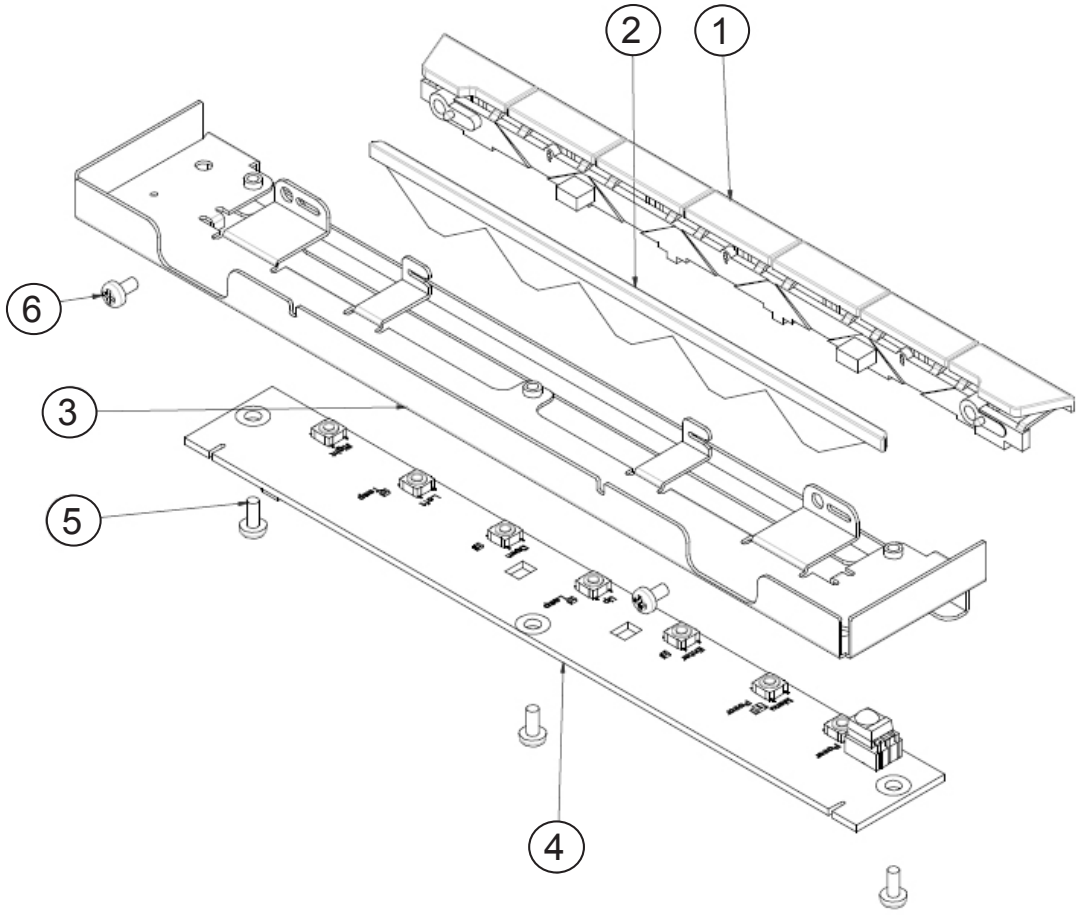
item	P/N	Description	Parts Supply
	70.8BH26GR01	ASSY OPTICAL ENGINE MODULE EP1080(SERVICE)	V
1	85.1A123G060	SCREW PAN MECH M3*6 NI	
2	23.83C10G001	Kinko UV_IR AR FOR EP910 25.7*25.7*2.75mm	
3	51.82B46G001	ENGINE MASK MYLAR FRPP 0.43t 5100MP ‘’	
4	52.82B02G001	OFF LIGHT ISOLATOR RUBBER 5100MP	
5	52.82B17G001	AIRTIGHT PORON FOR ENGINE-BLOWER FAN 5100MP	
6	52.82B24G001	PORON ENGINE LIGHTCUT 5100MP	
7	61.82B01G001	ENGINE BASE Mg ALLOY 5100MP	
8	61.82B05G001	OFF LIGHT HEATSINK AL 5100MP	
9	85.1A526G060	SCREW PAN MECH M2.6*6 Ni NYLOK	
10	61.82B08G001	UV IR SPRING SUS301 0.3t 5100MP “GREEN”	
11	87.FL060G030	MYLAR 6D*3d*0.3mm	
12	70.85H08G001	ASSY ROD MODULE HD81	
13	85.1A126G060	SCREW PAN MECH M2.6*6 Ni	
14	85.1A322G040	SCREW PAN MECH M2*4 BLACK	

Assy Top Cover Module EP1080



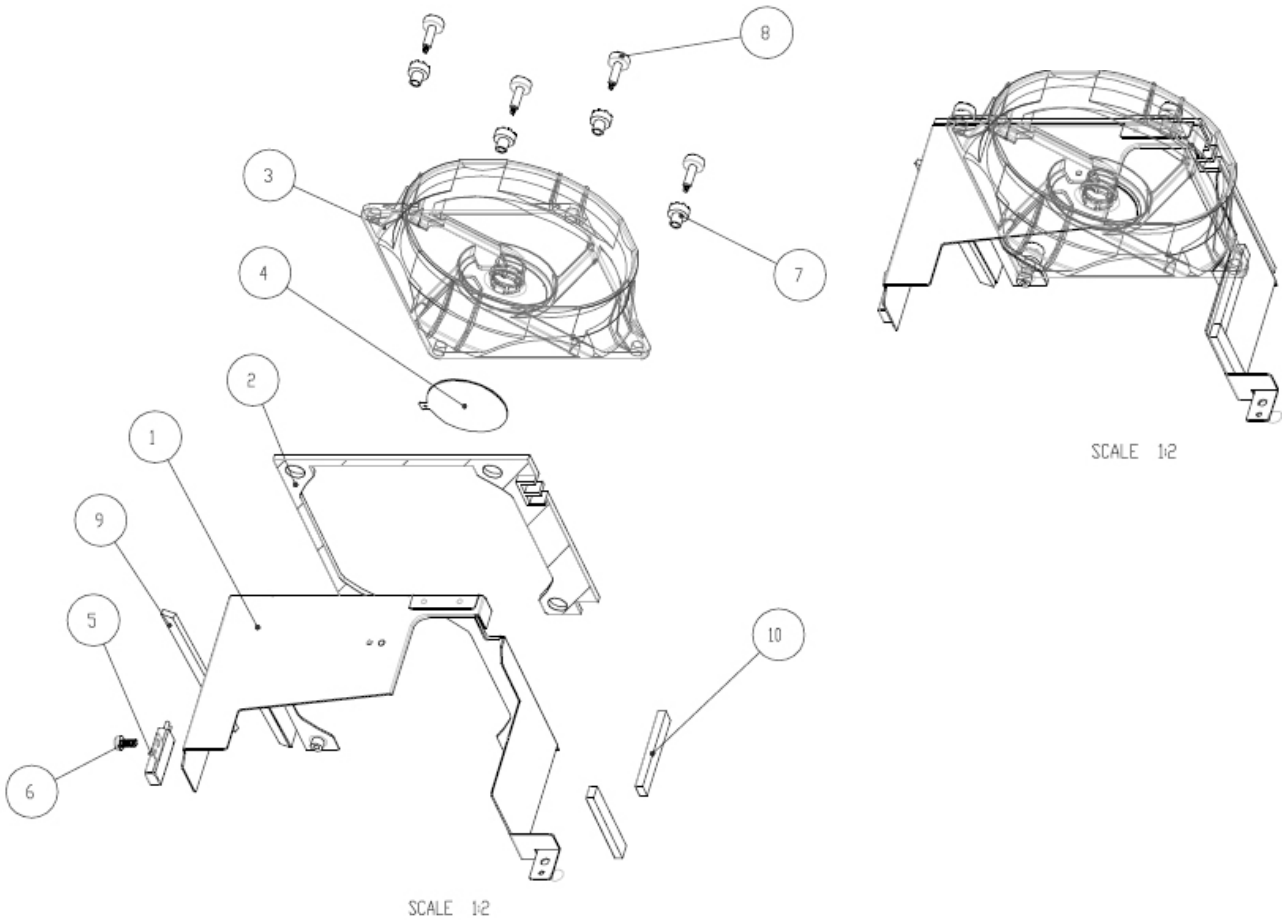
item	P/N	Description	Parts Supply
1	85.WA1236060	SCREW PAN TAP M3*6mm	
	70.8BH28GR01	ASSY TOP COVER EP1080(SERVICE)	V
2	41.83C12G001	EMI TAPE W5*L186mm	
3	41.83C10G001	EMI TAPE W30*L300	
4	41.83C11G001	KEYPAD TAPE W38*L254mm EP910	
5	41.83C18G001	EMI GASKET W13*H2*L210mm	
6	41.83C19G001	EMI GASKET W8*H8*L155	
7	41.83C20G001	EMI TAPE W78MM*L128MM	
8	41.83C21G001	EMI GASKET W13*H5*L50MM	
9	42.00304G001	FFC KEYPAD TO FORMATTER BD 16P P=0.5 122mm HD80	V
10	52.85H04G002	TOP COVER SPONGE 60mm HD81	
11	52.83C04G001	LIGHTCUT SPONGE FOR FR-IR EP910	
12	75.87T03G011	BUY ASSY TOP COVER EP1080	

Assy Keypad Module EP1080



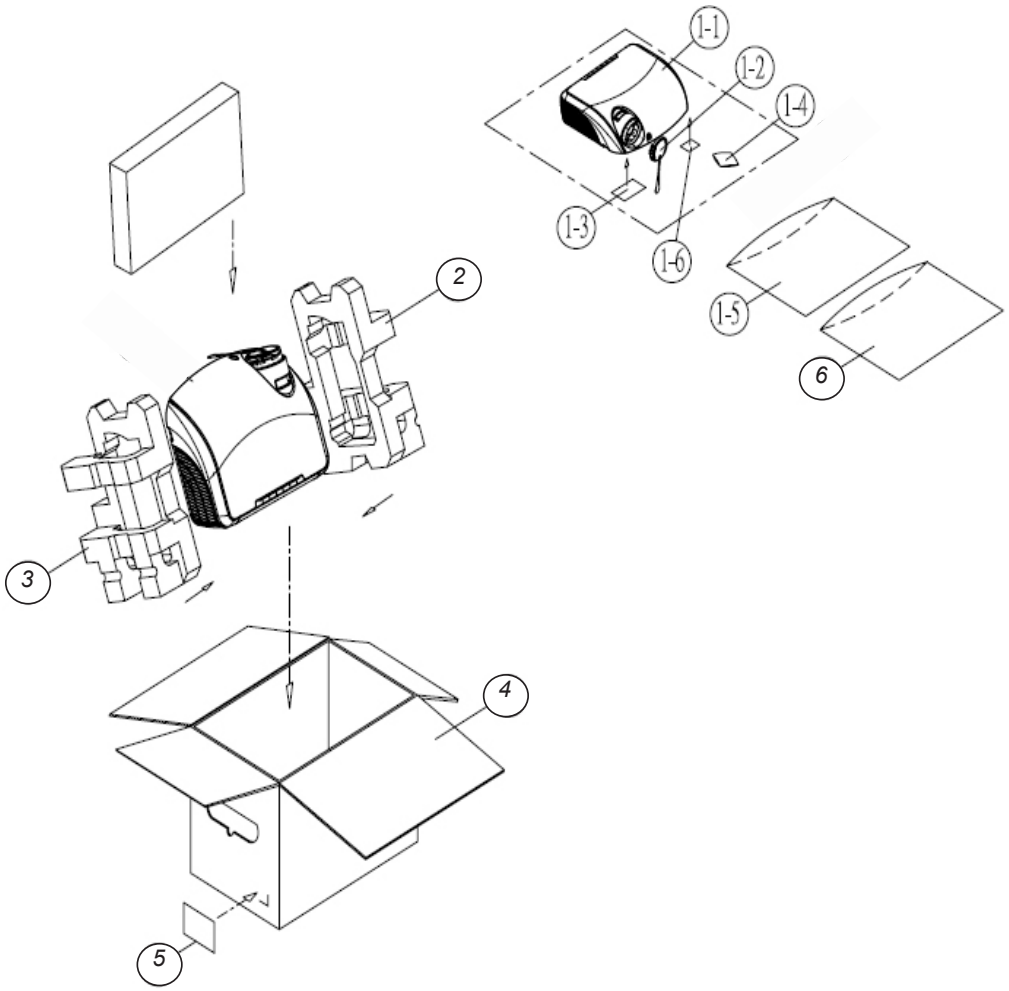
item	P/N	Description	Parts Supply
1	51.83C18G031	KEY PAD BUTTON (BLACK) EP1080	V
2	51.83C19G001	LED TRANSPARENT BAR EP910	V
3	61.83C09G001	KEYPAD BRACKET SECC 1.0t EP910	
4	80.87Z03G001	PCBA KEYPAD BOARD FOR HD80	V
5	85.1A123G060	SCREW PAN MECH M3*6 NI	
6	85.1D122G050	SCREW PAN MECH M2*5 Ni (W/WASHER φ5.0)	

Assy Fan Module EP1080



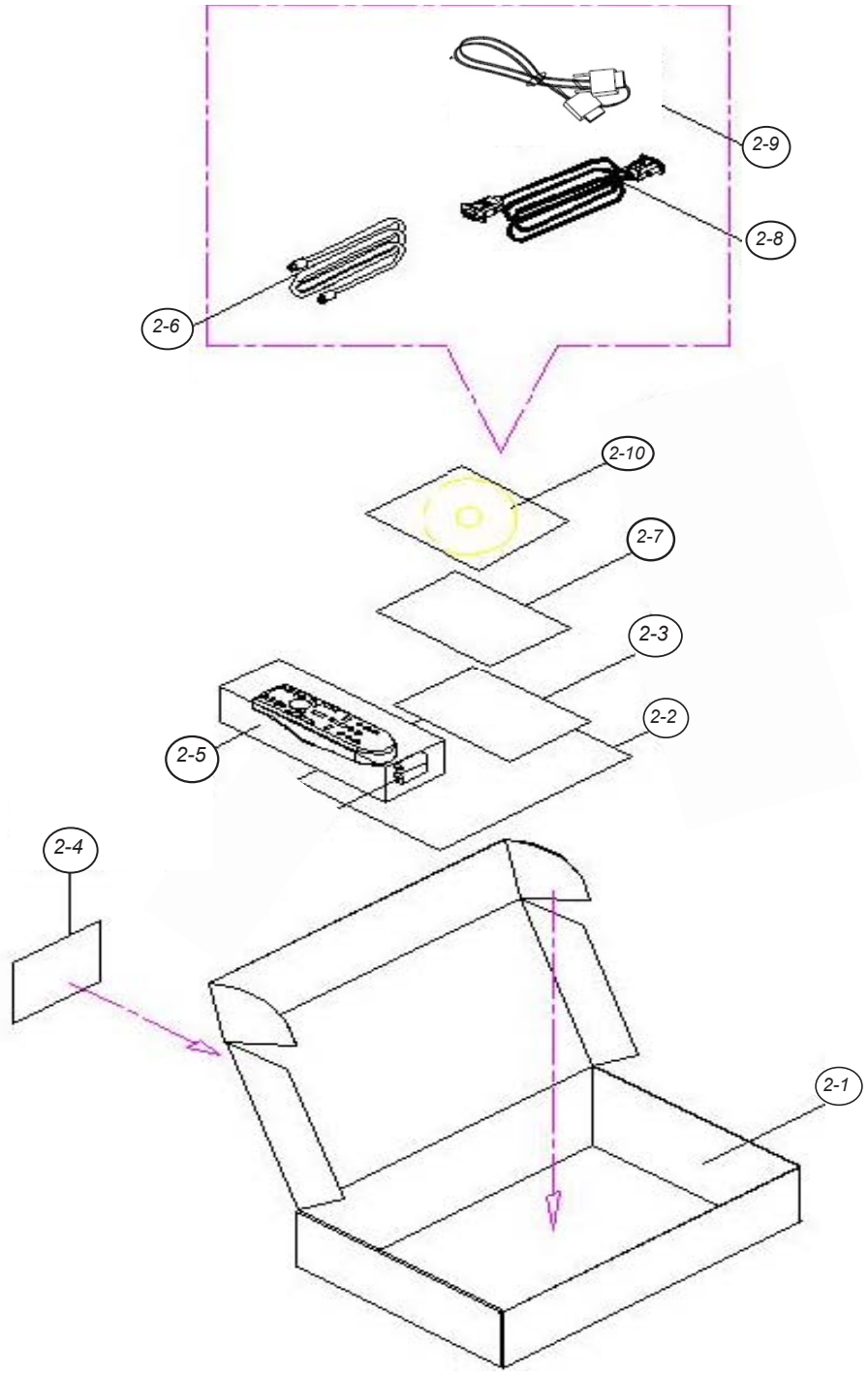
item	P/N	Description	Parts Supply
1	61.83C04G002	BRACKET FAN9225 HOLDER AL EP91	
2	52.83C01G001	RUBBER FAN9225 FLAT EP910	
3	49.83C04G001	SUNON 9225 AXIAL FAN/KDE1209PT	V
4	61.89552G001	FAN9225 PLATE AL 4100MP	
5	43.83C17G001	THERMAL SWITCH/YS11A105B-026	V
6	85.1A123G060	SCREW PAN MECH M3*6 NI	
7	52.82B15G001	FAN 9225 RUBBER TOP 5100MP	
8	61.89547G001	92*25 FAN SCREW M2.6 4100MP	
9	52.82B08G001	AIRTIGHT PORON FOR FAN BRACKET	
10	52.83C14G001	AIR-TIGHT SPONGE FAN HOLDER EP910	

D.P. EP1080



item	P/N	Description	Parts Supply
1-1	DC.8BH01G001	D.C. EP1080	
1-2	75.8BH10G001	LENS CAP MODULE EP1080	V
1-3	35.89603G001	LABEL SPEC EP759	V
1-4	57.00001G001	PACK SIO2 DRIER 20g	
1-5	56.83C03G002	PACKING EPE PAPER #535*450*0.8 EP910	V
1-6	35.83C03G001	LAMP WARNING LABEL EP910	V
2	56.83C04G001	CUSHION RIGHT EPE EP910	V
3	56.83C05G011	CUSHION LEFT EPE HD80	V
4	55.83C04G021	CARTON AB-18 OPTOMA LOGO HD80	V
5	35.82001G111	AK LABEL 3”*3” BLANK	V
6	51.00093G002	PE BAG 400*520*0.07mm FOR OPTOMA	V

A.K. EP1080



item	P/N	Description	Parts Supply
2-1	55.83C02G001	ACCESSORY BOX EP910	
2-2	36.8BH02G001	QUICK START CARD MULTILINGUAL OPTOMA EP1080	V
2-3	36.00020G001	QUICK TROUBLESHOOTING GUIDE MULTILINGUAL	V
2-4	35.82001G111	AK LABEL 3”*3” BLANK	
2-5	45.8BH01G001	INFRARED REMOTE CONTROL EP1080	V
2-6	42.00281G101	CABLE USB-A TO USB-B 1.8M BLACK	V
2-7	36.00018G001	EXTENDED WARRANTY REGISTRATION FORM, USA FOR LPP SERIES	V
2-8	42.00200G002	CABLE VGA 15P 1.8M BLK EP739	V
2-9	42.86603G001	CABLE RS-232 1.9M 9P(F) TO 9P	V
2-10	36.8BH01G001	USER’S GUIDE MULTILINGUAL (CD) OPTOMA EP1080	V

Appendix B

I. Serial Number System Definition

Serial Number Format for Projector (take EP1080 as an example)

Q	8BH	8	31	AAAAA	C	0001
①	②	③	④	⑤	⑥	⑦

① : **Q = Optoma**

② : **8BH = Project code**

③ : **8 = Last number of the year (ex:2008 = 8)**

④ : **31 = week of the year (ex:the thirty-one week of the year = 31)**

⑤ : **AAAAA = not-defined**

⑥ : **C = Manufacture factory (TW or CPC)**

⑦ : **0001 = Serial code**

EX: Q8BH831AAAAAC0001

This label represents the serial number for EP1080. It is produced for USA at CPC on thirty-one week of 2008. Its serial code is 0001.

II. PCBA Code Definition

PCBA Code for Projector

A	B	XXXXXXXXXX	C	XXX	EEEE
①	②	③	④	⑤	⑥

① : ID

② : Vendor Code

③ : P/N

④ : Revision

⑤ : Date Code

⑥ : S/N